Rowan University

Global Learning & Partnerships Catalog 2017 – 2018

Includes accelerated, online and off-site undergraduate programs and all graduate and post-baccalaureate programs

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rowan.edu/catalogs

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Rowan University In Brief

Type

Comprehensive, coeducational, non-sectarian, state-supported, public research university, opened in 1923.

Colleges and Schools

Business, Communication & Creative Arts, Education, Engineering, Humanities & Social Sciences, Performing Arts, and Science & Mathematics, Cooper Medical School, Graduate School of Biomedical Sciences, School of Earth and Environment, School of Health Professions, and School of Osteopathic Medicine.

Degrees

Bachelor of Arts, Bachelor of Fine Arts, Bachelor of General Studies, Bachelor of Music, Bachelor of Science, Master of Arts, Master of Business Administration, Master of Education, Master of Engineering Management, Master of Music, Master of Science, Educational Specialist, Doctor of Education, Doctor of Medicine, Doctor of Osteopathic Medicine, and Doctor of Philosophy.

Campuses

Main Campus – Glassboro, NJ (approximately 20 miles southeast of Philadelphia, PA), Camden, Mullica Hill, and Stratford, NJ.

Size

As of Fall 2016, 14,345 undergraduate students, 2,047 graduate students, and 980 medical students; approximately 977 full-time equivalent (FTE) faculty.

From Normal to Extraordinary: A History of Rowan University

Rowan University has evolved from its humble beginning in 1923 as a normal school, with a mission to train teachers for South Jersey classrooms, to a comprehensive public research university with a strong regional reputation.

In the early 1900s, many aspiring New Jersey teachers lacked proper training because of a shortage of schools in the state that provided such an education. To address the problem in South Jersey, the state decided to build a two-year training school for teachers, known then as a normal school.

The town of Glassboro was an early favorite because of its excellent rail system, harmonious blend of industry and agriculture, natural beauty and location in the heart of South Jersey. Several towns in the region competed to be the site of the new normal school because of the economic benefit and prestige such an institution would bring.

In 1917, to sway the decision in their favor, 107 Glassboro residents raised more than $7,000 to purchase 25 acres, which they offered to the state for free if the borough were selected as the site. The tract of land included the Whitney mansion (now known as Hollybush) and carriage house. Before the purchase, the entire property belonged to the Whitney family, prominent owners of the Whitney Glass Works during the 1800s. This show of support, along with the site's natural beauty, convinced the selection committee that Glassboro was the perfect location.

A Strong Foundation

In September 1923, Glassboro Normal School opened with 236 students arriving by train to convene in the school's first building, now called Bunce Hall. Dr. Jerohn Savitz, the institution's first president, expanded the curriculum as the training of teachers became more sophisticated.

Despite the rigors of the Depression, the program was expanded to four years in 1934, and in 1937 the school changed its name to New Jersey State Teachers College at Glassboro. The college gained a national reputation as a leader in the field of reading education and physical therapy when it opened a clinic for children with reading disabilities in 1935 and added physical therapy for the handicapped in 1944. The college was one of the first in the country to recognize these needs and was in the forefront of the special education movement.

Rowan's second president, Dr. Edgar Bunce, created a junior college program in 1946 to serve World War II veterans taking advantage of the GI Bill.

In the 1950s, Dr. Thomas Robinson, the University's third president, expanded the curriculum, increased enrollment and added several buildings to the campus. In 1958, the school's name was changed to Glassboro State College to better reflect its mission.

A Historic Summit

The University received worldwide attention when it hosted a historic summit conference between President Lyndon Johnson and Soviet Premier Aleksei Kosygin in Hollybush. The University was chosen because of its strategic location midway between Washington, D.C., and the United Nations in New York City, where Kosygin was scheduled to speak. The meetings between the two leaders, held June 23-25, 1967, presaged a thaw in the Cold War and eased world tensions.

Rapid Growth to Serve Needs

The University's fourth president, Dr. Mark Chamberlain, guided the college through its next phase of growth as enrollment doubled and G.S.C. became a multi-purpose institution. As new majors and a Business Administration Division were added, four divisions grew into schools and a board of trustees was formed. In 1969, the University opened a campus in Camden to expand its educational services. With a 1978 Division III National Championship in baseball, the first of 11 national championships for the institution, the athletic program established itself as one of the premier athletic programs in the country.

The college's fifth president, Dr. Herman James, assumed the leadership of the institution in 1984. Under his direction, Rowan expanded by establishing the first doctoral program among the state's public institutions and adding the Colleges of Engineering and Communication. Dr. James was also responsible for the construction of Campbell Library, the Student Recreation Center and Rowan Hall, home to the College of Engineering.

A Transformative Gift

In July 1992, industrialist Henry Rowan and his wife Betty donated $100 million to the institution, then the largest gift ever to a public college or university. Later that year, the school changed its name to Rowan College of New Jersey to recognize its benefactors' generosity. The Rowans' only request was that a College of Engineering be created with a curriculum that would address the shortcomings of engineering education.

The college achieved University status in 1997 and changed its name to Rowan University under Dr. James' leadership. The College of Engineering quickly earned national accolades for its successful new curriculum.

Dr. Donald J. Farish was appointed Rowan's sixth president in July 1998. Under his leadership, the University implemented an aggressive improvement plan that addressed academic and student support initiatives as well as campus construction and renovation projects.

Major construction projects included the University townhouses; Science Hall; Education Hall; and the Samuel H. Jones Innovation Center, the first building of the South Jersey Technology Park at Rowan University.

During his tenure, the University also entered into a public-private partnership that led to the construction of Rowan Boulevard, a $400-million, mixed-use redevelopment project that links the campus with Glassboro's historic downtown. The corridor features student and market-rate housing, a Barnes & Noble collegiate superstore, a Courtyard at Marriott Hotel, an urgent care center and numerous retail and dining outlets. Work is underway on other facilities.

A Broader Mission

During this period, Rowan founded Cooper Medical School of Rowan University—the first new medical school in New Jersey in more than 35 years and the first-ever M.D.-granting four-year program in South Jersey—in partnership with Cooper University Health Care.

The medical school welcomed its first class in the summer of 2012 into a new, six-story building adjacent to Cooper University Hospital in Camden. Close to 3,000 students applied for 50 spots in the medical school's charter class, which graduated in May 2016.

The Board of Trustees named then-Provost Dr. Ali A. Houshmand as interim president in July 2011 and then the University's seventh president in June 2012.

As provost, Dr. Houshmand established the College of Graduate and Continuing Education and started Rowan's online education program, which now are part of Global Learning & Partnerships. As president, he dramatically reduced institutional expenses and increased revenue while expanding enrollment and academic programs.

In 2012, several of the colleges were restructured and schools were created, among them the colleges of Business, Communication & Creative Arts, Education, Engineering, Humanities & Social Sciences, Performing Arts, and Science & Mathematics.

In 2016-17, the University opened Holly Pointe Commons, freshman and sophomore housing strategically located on Rt. 322, and new buildings for the William G. Rohrer College of Business and Henry M. Rowan College of Engineering, which will enable the high-demand programs to double their enrollment.

N.J. Medical & Health Sciences Education Restructuring Act

On July 1, 2013, Rowan again changed dramatically when the New Jersey Medical and Health Sciences Education Restructuring Act went into effect. The Restructuring Act designated Rowan as New Jersey's second comprehensive public research institution, transferred the University of Medicine and Dentistry of New Jersey's School of Osteopathic Medicine to Rowan and partnered Rowan with Rutgers-Camden to create health sciences programs in the City of Camden.

Rowan became the second institution in the nation to have both a D.O.-granting medical school (RowanSOM) and an M.D.-granting medical school (Cooper Medical School of Rowan University). The transfer of programs also led to the creation of the Graduate School of Biomedical Sciences and gave Rowan its third campus, with Stratford joining Glassboro and Camden, New Jersey, as homes to Rowan programs.

Recognized Nationally

Rowan has attracted the attention of national organizations that evaluate colleges and universities. U.S. News & World Report consistently ranks Rowan among the top tier Northern Regional Universities and among the top three public institutions in the category, and includes the Henry M. Rowan College of Engineering among the best institutions where

the highest engineering degree offered is a bachelor's or master's. The Princeton Review includes the William G. Rohrer College of Business among its best business schools yearly.

Numerous Opportunities

Rowan continues to expand its programs and partnerships. Among the most recent—and vital to higher education in New Jersey—was its June 2015 partnership with Burlington County College (now Rowan College at Burlington County) to improve access to affordable four-year undergraduate degrees. That move followed one two years earlier with Gloucester County College (now Rowan College at Gloucester County) that enables students to pursue Rowan bachelor's degrees at the county college or transfer seamlessly to the University after earning an associate degree and meeting standards.

Today, Rowan's approximately 18,000 students can select from 74 bachelor's, 51 master's, four doctoral degree and two professional (medical) degree programs— along with undergraduate and post-baccalaureate certificates—in colleges and schools across four campuses.

2016-17: Our Greatest Year Yet

Since its founding, Rowan has enjoyed many truly big years but the 2016-17 school year may have been our greatest yet! Among many high points, we attained Carnegie classification as a doctoral research university, proudly saw alumni Jean and Ric Edelman commit $25 million to preserve and expand the Rowan University Fossil Park (which was renamed in their honor), opened three new academic buildings and a new, privately built residence hall, added eight new academic programs and saw total enrollment and interest in the University continue to rise.

From the modest normal school begun 90 years ago, Rowan University has become an extraordinary comprehensive institution that has improved the quality of life for the citizens of New Jersey and the surrounding states.

Rowan University Mission and Strategic Pillars

Rowan University will become a new model for higher education by being inclusive, agile, and responsive, offering diverse scholarly and creative educational experiences, pathways, environments, and services to meet the needs of all students; maintaining agility by strategically delivering organizational capacity across the institution; and responding to emerging demands and opportunities regionally and nationally.

The University achieves its mission through four Strategic Pillars:

Access

We are committed to expanding quality educational opportunities for students by increasing our enrollment capacity; supporting student success; utilizing an increasing array of pedagogies and platforms; and creating new pathways to undergraduate, graduate, post-graduate, and professional studies.

Affordability

We are committed to keeping education affordable by managing costs; diversifying our revenue streams; reducing student debt; limiting tuition increases to the rate of inflation as measured by the consumer price index; and enhancing internship and employment opportunities for our students and graduates.

Quality

We are committed to providing rigorous, experiential, and engaging educational experiences; support for scholarly, creative, and research activities; a vibrant and healthy campus life; a rich intellectual, cultural, and artistic environment; and a safe, supportive and inclusive culture that respects and values the diversity of all of its members.

Economic Engine

We are committed to benefiting our local and state communities by making every effort to partner with and invest in regional businesses and organizations that contribute in meaningful ways to furthering our mission; preparing an educated citizenry and skilled workforce; enhancing the health of our citizens and the quality of life; and developing innovative products, services, and ideas.

Using This Catalog

Rowan University has multiple catalogs:

- The Undergraduate Catalog includes the program requirements and course descriptions for all traditional-format undergraduate programs (courses offered on-campus and across 16-weeks each term).
- The Global Learning & Partnerships (Rowan Global) Catalog includes program requirements and course descriptions for accelerated, online, and off-site undergraduate programs and all graduate and post-baccalaureate programs.
- The Cooper Medical School of Rowan University (CMSRU) Catalog describes the curriculum and policies for the Doctor of Medicine (MD) program.
- The Rowan University School of Osteopathic Medicine Catalog describes the curriculum and policies for the Doctor of Osteopathic Medicine (DO) program.
- The Graduate School of Biomedical Sciences (GSBS) Catalog describes the curriculum and policies for the academic programs offered by GSBS.

Academic Calendar 2017-2018

Fall Semester 2017

Labor Day (no classes)	Monday, September 4
Semester Classes Begin	Tuesday, September 5
Thanksgiving Recess (no classes)	Thursday-Saturday, November 23-25
Semester Classes End	Tuesday, December 12
Reading & Review (no classes)	Wednesday, December 13
Finals Week	Thurs-Wed, December 14-20 (includes Saturday, December 16)
Flexible Time Day	Thursday, December 21

Spring Semester 2018

Semester Classes Begin	Tuesday, January 16
Spring Break (no classes)	Monday-Saturday, March 12-17
Semester Classes End	Thursday, April 26
Reading & Review (no classes)	Friday April 27
Finals Week	Mon-Sat, April 30-May 5 (includes Saturday, May 5)
Commencement Week	Monday - Friday, May 7-11

Summer Sessions 2017

Memorial Day (no classes)	Monday, May 28
Fourth of July (no classes)	Wednesday, July 4

Summer Sessions are Subject to Change. Visit the Office of Winter, Summer, and Special Sessions for the Term calendars www.rowan.edu/winter/summer/calendars

NOTE:

Please note that this calendar applies to traditional programs offered on the Glassboro and Camden campuses during the fall and spring semesters. Visit www.rowan.edu/university/academic/calendars and use the links listed for calendars from The Division of Global Learning & Partnerships, Office of Winter, Summer, and Special Sessions, the Cooper Medical School of Rowan University, the Rowan University School of Osteopathic Medicine, and the Graduate School of Biomedical Sciences.

About the Division of Global Learning & Partnerships

The Division of Global Learning & Partnerships in Brief

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The Division of Global Learning & Partnerships is Rowan University's vehicle to identify and meet the specific needs of the adult student population. Our students include recent college graduates pursuing graduate or doctoral studies, returning college students pursuing the completion of a baccalaureate degree, employees/employers seeking professional development, and life-long learners seeking personal enrichment. The Division places foremost emphasis on making quality education accessible, convenient, and affordable through delivery modes that address the vast range of adult student learning needs and preferences. In partnership with Rowan University's nine academic colleges, Rowan Global currently offers several doctoral/specialist level programs (including both Ph.D. and Ed.D. programs), over 50 master's level programs (including concentrations), more than 50 graduate-level and post-baccalaureate certificate programs and endorsements, and a host of accelerated undergraduate degree-completion.

Rowan Global course/program offerings and corresponding services are classified into four major categories:

- **Traditional-format graduate-level** (including post-baccalaureate and doctoral) courses/programs for both part-time and full-time students. Courses are commonly face-to-face, 16 weeks, and held on one of Rowan's campuses.
- **Non-traditional format courses/programs at every level** (undergraduate, post-baccalaureate, graduate, doctoral). Courses are offered online, hybrid, off-site, Saturday-only, in an accelerated 7-week timeline, or some combination of these.
- All Rowan University **summer and intersession** courses.
- **Professional development and personal enrichment** non-credit courses, workshops, and seminars.

Locations and Campus Information

The Division of Global Learning & Partnerships is located on Rowan University's Main Campus in Glassboro, New Jersey, and in the University District in Camden, New Jersey.

Rowan Global's Glassboro campus is housed inside the Enterprise Center, a mixed-use facility on the newly developed Rowan Boulevard next to the Barnes and Noble University Bookstore, and among several eateries, health services, and luxury apartment and condominiums.

The Camden campus is located in the historic First National Bank and Trust Company building and annex, on the corner of Cooper and Broadway, and serves as the heart of Rowan Global's Camden campus. The Camden campus provides an array of services for students, faculty, and staff, including access to the Barnes and Noble University District Bookstore and Café and the Rutgers University Paul Robeson Library.

Rowan Global's Camden campus offers a variety of undergraduate degree-completion programs, including Law and Justice, Sociology, Human Services, and Disaster Preparedness and Emergency Management; a Doctorate in Education; and several academic enrichment programs designed to advance access to higher education among diverse populations, including the acclaimed Intensive English Language Program for English Language Learners (IELP) and the Achieving Success through Collaboration, Engagement, and Determination (ASCENT) program.

While parking privileges are available on both campuses, Rowan University also provides a daily courtesy shuttle that runs between the Glassboro and Camden campuses.

Rowan Global Academic & Student Affairs

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Academic & Student Affairs at the Division of Global Learning & Partnerships oversees Rowan Global policy, courses, and academic programs. The Academic Affairs Unit is comprised of the Office of Graduate and Degree Completion Studies, the Adult and Experiential Learning Center, Rowan Global Student Services, and the Office of Winter, Summer, and Special Sessions.

Rowan Global Policies

Rowan Global Academic Affairs works with the Provost's Office, the Vice President of the Division of Global Learning & Partnerships, and the Graduate Advisory Council (GAC) to ensure that Rowan Global policy is communicated and applied fairly and consistently to all students.

Every student pursuing studies at Rowan University is subject to the university's policies and procedures as outlined in the official Student Handbook available online at www.rowan.edu/studentaffairs/handbook.html.

The Rowan University Student Handbook provides an overview of policies and practices governing undergraduate, post-baccalaureate, and graduate work at the institution. The University expects students to access and review this Handbook in order to remain informed of rules, regulations, policies and practices in the Rowan catalog or issued by the faculty, administration and the Rowan University Board of Trustees.

Students enrolled in programs or courses offered by Rowan Global (those in online, hybrid, off-site, and/or accelerated programs or registered for courses with a letter appearing after the section number in the Rowan Section Tally) should be aware that they may be required to follow slightly different policies, practices and/or deadlines (due to accelerated scheduling, this is especially true for admissions, registration as well as dropping/adding/withdrawing from classes/programs).

If a University policy or process should differ for a Rowan Global student, the Handbook will direct the student to www.rowanu.com/policies. Any questions about Rowan Global policy may be addressed to Rowan Global Academic Affairs.

Office of Graduate & Degree Completion Studies

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The Office of Graduate and Degree Completion Studies works closely with Rowan University's academic schools, colleges, and off-site partners to present programs that are current and applicable to contemporary students and their desired academic and career paths.

The Office of Graduate and Degree Completion Studies hosts nationally and internationally acclaimed programs of graduate study, including master and doctorate level programs, certificates of graduate study, and certificates of advanced graduate study; houses degree completion programs for adult learners returning to education; develops, promotes, and celebrates programs that are delivered at several convenient times/locations and in a variety of online and face-to-face formats; and provides oversight and administrative support for all Rowan Global program development, updates, and launches.

The office maintains a strong relationship with the Upsilon Chapter of Alpha Epsilon Lambda (AEL)--an honor society dedicated to Graduate & Professional Students--and our Graduate Faculty, Department Chairs, and College Administrators to develop and implement graduate, undergraduate, and degree-completion programs.

Office of Winter, Summer, and Special Sessions

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The Office of Winter, Summer, and Special Sessions celebrates a year round college experience for students. Rowan University hosts a combination of its own graduate and undergraduate students, as well as visiting students from local, regional, national, and international universities. Through accelerated Winter and Summer courses, students earn credits to stay on track in a four year program, graduate early, earn credits towards an additional program of study, and/or complete academic and professional programs for employment growth and opportunities. Winter and Summer sessions are offered online, hybrid, and face to face to accommodate a sizable and diverse population of learners.

Additionally, the Office of Winter, Summer, and Special Sessions coordinates special efforts to offer college credit-bearing courses to highly achieving high school juniors and seniors at a reduced tuition rate through the Rowan University College Acceleration Program (CAP) and High School Online Dual Credit Initiative. Rowan University courses offered through CAP and the High School Online Dual Credit Initiative fulfill several of Rowan University's general education requirements and are designed to be transferrable to other institutions of higher education.

Adult & Experiential Learning Center

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The Adult and Experiential Learning Center serves as the point of entry for adult learners seeking degree completion and certificate programs online, on-the-ground at the Rowan University Camden campus, and/or on-site at Rowan University's partner colleges. The Adult and Experiential Learning Center offers outreach, admissions, and first-term enrollment counseling; ongoing academic advising and student support to adult learners enrolled in Rowan Global undergraduate and certificate programs, including study in Psychology, Law and Justice, Liberal Studies, Construction Management, Nursing, Human Services, Disaster Preparedness and Emergency Management, and Fundamental Computing; opportunities to accelerate degree completion through a variety of assessments and articulation agreements, including credit by examination, ACE-evaluated transcripts of prior learning, military training, and union apprenticeships; and opportunities to earn college credit through prior learning and workplace experience.

Credit for Institutional Prior Learning Assessment

Rowan Global Learning and Partnerships encourages undergraduate students to seek college credit for assessment of experiential learning. Prior Learning Assessment, the evaluation of knowledge and competencies for the purpose of awarding college credit, validates the level of knowledge gained from experiential learning. Institutional Prior Learning Assessment pathways offer adult, returning, and other non-traditional learners the opportunity to accelerate degree completion. Learners demonstrate college-level education, competencies, and knowledge gained outside the university setting. Experiential learning may result from various life experiences, including business ownership, civic leadership, workplace training, volunteer work, military training, assessment of nationally recognized licenses, and union-sponsored apprenticeships. Individualized assessments may include professional credentials, standardized tests, military and corporate recommendations, institutional credit by examination, and portfolio assessment. College credit is awarded for college-level learning and not for experience alone.

Adult learners, returning to college or just beginning, may wish to explore available Credit for Prior Learning Assessment opportunities. Students interested in exploring Credit for Prior Learning may contact Rowan Global Learning & Partnerships' Adult & Experiential Learning Center by email: bakerl@rowan.edu or phone: 856.256.5794.

Rowan Online

Michael Ciocco
Director
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Rowan Online, develops, delivers, and supports online courses and programs. Rowan online courses are offered in a Learning Management System and are characterized by a user-friendly environment that incorporates multi-media technologies, including digital slide shows, audio, and video to deliver course content as effectively as in the classroom setting. Students engage one another and the course instructor using internet-based communication tools including email, chat rooms, and online discussion boards. Rowan Online provides technical support, including after-hours support for emergencies.

Rowan Global's online programs, with little exception, are delivered using either all online accelerated coursework or using a combination of online and face-to-face coursework (hybrid). Both students enrolled in online or hybrid courses are Rowan students with the same access to Rowan's state-of-the-art facilities and on-campus resources.

Rowan Global Student Services

Main phone: 856.256.5435
globalstudent@rowan.edu

Georgann Watt
Supervisor
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watt@rowan.edu

Rowan Global Student Services assists students in Rowan Global programs and supports the faculty and staff of Rowan University's individual colleges and administrative offices. In collaboration with University Scheduling and Rowan University faculty and staff, Student Services provides outstanding service and expedient access to education for a growing population of national and international graduate, undergraduate, and post-baccalaureate students in a variety of course delivery modes from traditional to fully-online programs.

Rowan Global Student Services is comprised of three student specialists who assist students with financial/tuition concerns, communicate with partner schools and satellite campuses to clarify articulation of partnership roles and ongoing opportunity for students, provide clarity of university processes and policies and maintain and promote currently effective systems, provide a voice for students as they transition into higher education environment, and identify and solves student matters regarding all aspects of academic engagement.

Transfer Credit Processing

Applicants seeking to transfer credits must submit a Graduate and Post-bac Transfer Credit Evaluation Form (available for download at www.rowanu.com/forms) and all required supporting materials (official transcripts, syllabi, course descriptions) at the time of application.

Most graduate programs at Rowan University allow incoming matriculated students to transfer up to 12 graduate-level credits provided that a grade of B or better was earned, the courses and credits are deemed equivalent to required courses and credits in the program, and the coursework was taken within the past 10 years. For the transfer credit policy for a particular graduate program, please contact the program's Academic Advisor.

Registration

For matriculated Rowan Global students, registration plans vary according to program. Information regarding how and when to register will be included in the matriculation confirmation email sent to new students upon receipt of a completed and signed Matriculation Signature Page. Any registration-related questions should be directed to Rowan Global Academic & Student Services at globalstudent@rowan.edu.

Senior Privilege

Rowan Global Student Services coordinates the Senior Privilege process at Rowan that allows qualified students to enroll in up to six credits of graduate-level courses prior to completion of a Bachelor's degree and while paying the undergraduate tuition rate. Seniors (students with 90+ earned hours) at Rowan University who have at least a 3.000 cumulative undergraduate GPA may request permission to register for one graduate level course per semester through the Senior Privilege process by submitting the proper forms (available at www.rowanu.com/forms) to Rowan Global Academic & Student Services before the close of registration for the term in question. For more details about this policy and process please consult: www.rowanu.com/policies .

Financial Aid

Pam Gordy
Director
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Brittnie Thomas
Assistant Director, Financial Aid
Marketing and Enrollment Management
Enterprise Center, 2nd floor
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The Financial Aid Office strives to:

- Provide access to higher education by effectively managing federal, state, institutional, and private financial resources while adhering to any applicable laws, regulations, and policies;

- Implement strategies to help recruit, retain, and graduate a diverse and talented student body; and,
- Guide students and parents with financial aid information and resources that will enable students to achieve their educational goals.

Types of Aid

There are generally four main types of aid: Grants, Loans, Work-Study, and Scholarships. There may also be special aid options for those who are already NJ Stars, EOF recipients, transfer students, or those eligible for veteran's benefits.

Applying for Aid

Rowan Global students, regardless of how their course is offered (online, off-campus, hybrid, or face-to-face), must follow the same process for financial aid as other Rowan students. To apply for financial aid, all students must complete the Free Application for Federal Student Aid (FAFSA) online at www.fafsa.ed.gov . (Rowan's FAFSA code is 002609.) Applying for the FAFSA begins the federal aid process and since it is separate from any individual school's admission process, a student does not need to be admitted to an institution to begin. Rowan Global strongly encourages its students to apply for aid early and to apply for any academic year in which they are eligible.

Eligibility

Degree granting programs are academic programs that lead to a degree including bachelor's, master's, doctoral, and specialist programs. While a student does not need to be admitted to apply for federal aid, a student must be admitted and matriculated (have officially accepted the offer of admission) via the signed Rowan Global Student Guide & Agreement Signature Page in order to receive federal aid should they qualify. Financial Aid cannot be packaged or applied to any Rowan student account until you are officially matriculated into an academic program. It is also not possible to apply financial aid retroactively to a previous term, even within the same academic year.

You must apply each academic year for federal aid; and, while you may be awarded an estimated aid package for the year, aid is only officially disbursed by Rowan's Financial Aid Office each fall or spring term to matriculated students who are registered for the appropriate minimum number of credits that particular term. This could mean that you receive aid one term but not the next. Also keep in mind that aid might not be applicable for those matriculated Rowan Global students who begin a program mid-term because they are usually only taking one course which does not usually qualify for the federal part-time minimum enrollment for aid.

For an undergraduate-level student 6 credit hours per term is the minimum required to qualify for federal financial aid. **For a graduate-level (or doctoral) student, 4.5 credit hours per term is the minimum**. (These are both considered part-time status.) Financial aid is therefore not applicable for those terms in which the total number of credits for which a student is registered is fewer than 6 (for undergraduates) or 4.5 (for graduates).

Title IV Ineligible Programs

While Certificates of Graduate Study (COGS), Certificates of Advanced Graduate Study, Graduate Endorsements/Certifications, and Post-Baccalaureate programs are classified as academic, they are non-degree programs. **As such, these programs are ineligible for Title IV funding**. Title IV programs include financial aid from the Federal Pell Grant, Federal SEOG, Federal TEACH Grant, Federal Stafford Loans, and Federal Work Study. However, prospective students are encouraged to seek other forms of assistance such as employer tuition reimbursement, private loans, or scholarships.

Federal Return of Title IV Funds Policy

Federal regulations require Title IV financial aid funds to be awarded under the assumption that a student will attend the institution for the entire period in which federal assistance was awarded. When a student withdraws from all courses for any reason, including medical withdrawals, he/she may no longer be eligible for the full amount of Title IV funds that he/she was originally scheduled to receive. The return of funds is based upon the premise that students earn their financial aid in proportion to the amount of time in which they are enrolled. A pro-rated schedule is used to determine the amount of federal student aid funds he/she will have earned at the time of the withdrawal. Thus, a student who withdraws in the second week of classes has earned less of his/her financial aid than a student who withdraws in the seventh week.

Once 60% of the semester is completed, a student is considered to have earned all of his/her financial aid and will not be required to return any funds.

Federal law requires schools to calculate how much federal financial aid a student has earned if that student:

- Completely withdrawals; or
- Stops attending before completing the semester; or,
- Does not complete all modules (courses which are not scheduled for the entire semester or payment period for which he/she has registered at the time those modules began).

Based on this calculation, Rowan University students who receive federal financial aid and do not complete their classes during a semester or term could be responsible for repaying a portion of the aid they received. Students who do not begin attendance must repay all financial aid disbursed for the term.

Registrar

Rebecca Gollihur
Savitz Hall, 1st Floor
856.256.4367
gollihur@rowan.edu

registrar@rowan.edu

The Office of the University Registrar oversees registration and registration-related issues for all of Rowan's undergraduate and graduate (non-medical) students. The Registrar coordinates compliance with the Statewide Transfer Agreement and provides resources for transfer students, including the management of ongoing transfer credit articulations and credit postings for individual undergraduate and graduate students. In addition, the Office has oversight for student records, including transcripts, enrollment verifications, coordination of graduation audits, and the awarding of all Rowan degrees, certificates, and diplomas. The Office also coordinates updates to official curriculum in the system, including programs and courses. The Registrar works closely with all academic colleges as well as University Scheduling, the Offices of Admissions, Advising and Student Retention, and directly supports the Office of Academic Affairs.

Non-matriculated students

(Not admitted to a degree or certification programs)

- **Undergraduate courses**: Non-matriculated students with a high school diploma or its equivalent may register for undergraduate courses for which they are otherwise eligible. Non-matriculated undergraduate students are not permitted to register for more than 11.5 credits in any term or accumulate more than a total of 24 undergraduate credits prior to formal acceptance into an undergraduate program. To inquire about registering for coursework as a non-matriculated undergraduate student, please visit www.rowan.edu/registrar .
- **Post-baccalaureate courses**: Non-matriculated undergraduate students who have already earned a Bachelor's degree are not permitted to accumulate more than a total of 6 undergraduate-level credits prior to formal acceptance into a post-baccalaureate program. To inquire about registering for coursework as a non-matriculated post-baccalaureate student, please visit www.rowan.edu/registrar .
- **Graduate courses**: Non-matriculated students with a Bachelor's degree or its equivalent may register for graduate courses for which they are otherwise eligible. Non-matriculated graduate students are not permitted to accumulate more than a total of 9 graduate credits prior to formal acceptance into a graduate program. To inquire about registering for coursework as a non-matriculated graduate student, please visit www.rowan.edu/registrar .

Courses taken as a non-matriculated student are not guaranteed to count toward a future Rowan program. Not all courses are open for registration to non-matriculated students. Please click on the course registration number (CRN) in the Rowan Section Tally (http://banner.rowan.edu/reports/reports.pl?task=Section_Tally) to view any pre-requisites or restrictions assigned to that course.

Non-matriculated students pay for their coursework according to the tuition rate assigned to the course level for each course for which they register. (For tuition rates, consult www.rowan.edu/bursar).

Bursar

Leonardo T. Freyre
Savitz Hall, 1st Floor
856.256.4150
bursar@rowan.edu

The Bursar's Office is responsible for all billing of students and for the collection of payments.

Each term, a statement of expenses will be mailed electronically. All charges must be paid in full each semester on or before the date stipulated in the statement of expenses given each student. Students who do not pay their bills will be withdrawn from classes in accordance with the University policy on outstanding financial obligations. Credit may be extended to students engaged in negotiations concerning state scholarships, loans or grants. Questions regarding university expenses should be discussed with personnel in the Bursar's Office.

Checks in payment of all charges should be made payable to Rowan University. Payment may also be made with MasterCard, Visa, Discover or American Express. Detailed information on use of these credit cards is available to students prior to the beginning of each semester. All students qualify for the deferred payment program. Information on the deferred payment plan is available on the "Instructions for Term Invoice" page on-line at the Rowan Self Service web site at www.rowan.edu/selfservice .

Tuition and fees, regulated by Rowan University, are subject to change without notice to individual students.

Rowan Global Marketing and Enrollment Management

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Saudia Beverly
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The Division of Global Learning & Partnerships coordinates all admissions and admissions-related activities for Rowan Global academic programs.

Applying to Rowan Global

Admission to Rowan University as an undergraduate, post-baccalaureate, or graduate-level student is competitive. All applicants are admitted according to the standards and requirements established by Rowan's academic departments. Each component of the application is carefully reviewed and taken into consideration for each candidate. Additional policies and information about Rowan Global Admissions and applying can be found at www.rowanu.com/admissions .

Eligibility for Admissions

Admission requirements for each academic program offered through the Division of Global Learning & Partnerships at Rowan University can be found at www.rowanu.com/programs .

- Undergraduate admission: Rowan Global offers non-traditional degree-completion (transfer) programs for undergraduate students. Any applicant who has completed 24 or more college credits at another institution is considered a transfer student. Students seeking a second bachelor's degree are also considered transfer students, whether they graduated from Rowan or from another institution. Most undergraduate-level programs at Rowan require a minimum GPA for admission. However, meeting that minimum does not guarantee admission due to competition for available openings. Admission decisions for applicants who've attended college more than five years ago are based on motivation, life experiences, career advancement, and college transcripts.
- Post-baccalaureate and graduate admission: To be admitted to a post-baccalaureate or graduate-level program at Rowan University, an applicant must have earned a baccalaureate degree from a regionally-accredited college or university in the United States or its equivalent from a foreign institution of higher education. Faculty-admission committees for post-baccalaureate and graduate-level programs use different evaluation criteria, according to the requirements of the profession and the number of applicants applying to the program.
- To apply to a Rowan Global program (undergraduate, post-baccalaureate, or graduate-level) please visit www.rowanu.com/programs and click on your program of interest for information and links to application deadlines and instructions.

Honors Admission for Rowan Graduates

Rowan undergraduate students who have graduated within the last three years, or Rowan seniors in their final semester, are exempt from paying an application fee and from taking standardized tests (except where it is necessary to meet standards recommended by accrediting bodies, certification agencies, statutory regulations, and/or professional societies) *if* they have achieved a cumulative GPA of 3.8 or greater in their undergraduate coursework and meet all other admission requirements.

Non-U.S. Transcript/Academic Credentials Requirements

Any Rowan Global applicants (regardless of U.S. citizenship) who attended a non-U.S. institution for more than one term and/or who earned a Bachelor's degree (or its equivalent) and/or Master's degree (or its equivalent) from a non-U.S. institution or where English was not the official language of instruction is required to submit to Rowan Global Admissions official English translations (if transcript is not in English) *and* a course-by-course transcript evaluation to determine equivalency. Acceptable evaluation agencies* are:

- World Education Services (WES) (www.wes.org)
- Educational Credentials Evaluators (ECE) (www.ece.org)
- Josef Silny (www.jsilny.com)

**Note: Rowan University has no affiliation with these companies and may accept an evaluation from other companies under special circumstances; however, the above agencies are proven to provide fast and accurate services to students and their evaluations are trusted by colleges throughout the U.S.*

English-language Proficiency Requirements for Non-native Speakers

International applicants are required to submit official copies of successful scores from one of the two tests listed below. (This requirement is waived for any applicant whose first language is English, any applicant who has been studying or working in the U.S. for two or more years, or whose undergraduate institution uses English as the language of instruction. Other ESL programs do not qualify.)

- TOEFL (Test of English as a Foreign Language) (www.toefl.org). Minimum required scores are: 550 or higher - paper test; 79 or higher - internet test; 213 or higher - computerized test
- IELTS (International English Language Testing System) (www.ielts.org). Minimum required score is 6.0.

Additional Requirements for International Applicants

At Rowan University, non-U.S. citizens requiring the F-1 or J-1 visa must complete two separate processes to be admitted to the University and to be considered for the Rowan-sponsored I-20 necessary to obtain the proper visa.

- The first process is the academic admissions process. All applicants must submit complete application packets including all required materials for their particular program of interest by the appropriate deadline to Rowan Global Admissions and be evaluated for admission and matriculation into a full-time academic program.
- The second process is the financial review, which is coordinated independently by the International Center (IC) at Rowan University. Applicants must complete all of the steps outlined by the IC in order to demonstrate that they have the financial resources necessary to support themselves for the duration of their studies at Rowan. Without complete information and appropriate certification, Rowan's International Center cannot issue the I-20 necessary to obtain an F-1 or J-1 visa. For a full list of financial review requirements and instructions please visit www.rowan.edu/internationalstudents .

General Information about Standardized Tests

Tests scores must be no older than five years and must be official reports submitted to Rowan Global Admissions directly from the testing agency*. Applicants must designate Rowan University as a recipient of their test scores or scores will not be released. (Only the most recent exam results are used for admission purposes.) Rowan's code for most standardized tests is 2515 except for the ACT (not required of graduate students) which is 2560, and the IELTS and GMAT, which both include instructions for proper score submission at the time of testing.

**Some testing agencies may only provide an address for "The Graduate School." If that is the only option available, select it, but please include a note on the application indicating that test scores were sent to that address.*

Changing Academic Program after Matriculation

Matriculated students who have already begun a program, may decide that a different Rowan program better suits their needs. If that is the case, students must complete a new online application for their program of interest and also indicate in the “Change of Program” section of the application that they are a currently enrolled student. Depending upon the admission requirements of the new program, additional materials may need to be submitted. Any questions about the COP process should be directed to the enrollment counselor assigned to the new program of interest.

Undergraduate Programs

Undergraduate studies at Rowan University are housed in seven colleges and two schools: Business, Communication and Creative Arts, Education, Engineering, Performing Arts, Humanities & Social Sciences, Science & Mathematics, the School of Health Professions and the School of Earth and Environment. To receive a baccalaureate degree, the student must successfully complete a minimum of 120 semester hours of credit. Within this number must be included the general education and Rowan experience requirements plus the requirements of the academic major. Requirements for the major will vary from program to program, and some programs exceed 120 hours.

Academic Major Programs

Academic major programs listed with general education requirements in the colleges of Business, Communication & Creative Arts, Engineering, Humanities & Social Sciences, Sciences & Mathematics and Performing Arts fulfill baccalaureate degree requirements but not teacher certification requirements. Additional program information, including the fulfillment of certification requirements, may be secured by contacting either the office of the dean of the College of Education or the University Advising Center (UAC)

Second Major or Minor

Students may choose to complete a second major, minor, or concentration when graduating from a bachelor's degree program at Rowan University. To qualify for this additional designation on the transcript, a student must satisfy all course work for the second major, minor, or concentration concurrent with the conferral of the degree. Students must follow departmental policy regarding required course work to be completed at Rowan University for the minor, concentration, or second major. Academic policies governing the award of degrees for dual majors, concurrent, and successive degree programs are listed in the Rowan Handbook: www.rowan.edu/student_affairs

General Education at Rowan University

A well-rounded education is a goal in itself and there are important aspects of this education that the university as a whole wants to emphasize. These aspects include a thorough grounding in communication and an exposure to university level science, mathematics, social and behavioral science, and the humanities.

Broadly speaking, the general education program will:

1. Develop students' abilities to speak and write effectively, think clearly and critically
2. Develop students' abilities to use computational, quantitative, and problem solving skills, as well as scientific thinking and modes of inquiry
3. Increase students' understanding of the complexity of issues in humanities, arts, social and behavioral sciences and the practice of free inquiry in their analyses and examination of values.
4. Provide opportunities for students to explore concentrations, minors, or disciplines outside of their own in greater depth.

As one of the fundamental principles of a general education curriculum is to experience a variety of disciplines, students are required to take courses from five areas: Communication; Science and Mathematics; Social and Behavioral Sciences; History, Humanities, and Language; and Non-Program Courses.

At Rowan University, the minimum number of hours required for a four-year degree is 120 semester hours, and all students are required to earn a combined total of 42 semester hours of General Education and Rowan Experience courses. (The Rowan Experience Requirements are described in detail in the next section.) Different degree programs vary in the number of hours required for Free Electives and the Major. Students must plan their program of study in consultation with an advisor in order to meet all the requirements of a specific major program.

Within General Education, there are specific areas of study or discipline groups. All of the semester hour requirements listed below are considered minimum requirements. Specific requirements may vary by degree type (Bachelor of Arts, Bachelor of Science) and/or by major program of study.

General Education Requirements by Area of Study

Following are the minimum numbers of credits required in each of five areas of study within General Education. In addition to meeting the minimum credit hours in each bank, students must earn a COMBINED TOTAL of 42 credits of General Education courses and Rowan Experience courses.

General Education Areas	
Communication	6
Science and Mathematics	7
Social and Behavioral Sciences	6
History, Humanities and Language	6
Non-Program Courses	6

These are minimum requirements for each area of study or discipline group. Specific major programs may expand the requirements within any of these categories in order to meet program and learning outcome objectives as well as meeting the minimum 120 semester hour requirement for a four-year degree. Specific General Education courses may be required for individual majors if they serve as prerequisites for required courses within that major.

General Education courses must be selected so that the following requirements are satisfied:

1. All students must take College Composition I (3 s.h.) or Intensive College Composition I (4 s.h.) as well as College Composition II (3 s.h.).
2. The minimum of 6 s.h. of Communication is fulfilled by College Composition I and II. For all other banks requiring 6 or more semester hours, students must take courses from at least two different disciplines within the bank.
3. All students must take at least one course from the list of mathematics courses listed under Science and Mathematics.
4. All students must take at least one approved course that includes an in-class laboratory experience (LAB) under Science and Mathematics. Transfer courses must include the in-class lab experience. Students may not test out of the lab experience.
5. All courses at the university can be used in the Non-Program Bank, as long as they are not courses in the major program of the student.

Students Transferring from a New Jersey Community College to Rowan University

Students who have completed an Associate of Arts or Associate of Science degree at a New Jersey community college will receive at least 60 hours of transferrable credit towards the appropriate Bachelor of Arts or Bachelor of Science Program. With regard to General Education, it is assumed that transfer students will have met all lower division General Education requirements expected of students having completed the first two years of a four-year program. In most situations, students will receive transfer credit for a combination of General Education Courses, Rowan Experience Courses, Free Electives, and Major Requirements totaling at least 60 semester hours of credit or approximately one-half of a basic four-year degree.

Exceptions to this assumption will occur when students have failed to complete required course work at the community college that is required for entrance into a required Rowan University course. Coordination between the student and advisor at the community college is necessary in planning for the transfer to Rowan University. Specific program requirements are available on the Rowan University home page.

For students transferring to the university without completing an Associate of Arts or Associate of Science degree, it is expected that credits taken at a New Jersey community college that are applicable to an Associate of Arts or and Associate of Science degree will be transferable to the basic four-year degree program at Rowan University. Transfer students must meet the specific graduation requirements of the Rowan University degree program to which they seek to transfer. It is expected that through careful planning, the transfer student will be able to meet these requirements within their two years of study at the community college and the following two years of study at Rowan University.

General Education Requirements

General Education is designed to fulfill the aim of a liberal education. It is intended to provide the breadth of knowledge and balance of judgment befitting a college graduate, regardless of major. At Rowan University, General Education is divided into five areas of study with specific goals. The educational goals of the five areas of study are:

Communication Bank Goals

1. Students will develop the ability to write a structured, well-reasoned, ordered and grammatically correct document appropriate to the intended audience.
2. Students will develop the ability to research and properly reference the work of others.

Science and Mathematics Bank Goals

1. Students will demonstrate an ability to identify and apply fundamental concepts in science and math.
2. Students will demonstrate an ability to collect, interpret and verify lab data.
3. Students will demonstrate an ability to analyze and manipulate data, and to access and organize information.

History, Humanities, and Languages Bank Goals

1. Students will demonstrate an understanding of major concepts, theories, and methods in at least two areas of history, humanities, culture, or world languages.
2. Students will develop an understanding of systems of thought and language.

Social and Behavioral Sciences Bank Goals

1. Students will demonstrate an understanding of major concepts, theories, and methods in at least two areas of the social and behavioral sciences.
2. Students will demonstrate an understanding of the development of human society as it relates to culture, geography, and language in the context of an emerging interdependent, global community.
3. Students will demonstrate an ability to apply basic methodologies used in the measurement of social and behavioral sciences.

Non-Program Electives Bank Goals

1. Students will develop a deeper understanding of at least one area outside of the major program of study as a means of creating a broader, customized, and complete program of general education.
2. Students will choose courses to enhance the major degree program and better prepare them to meet future professional and life objectives.

Some general courses offered at Rowan University fulfill one or more of the Rowan Experience Requirements, or are applicable to the Honors Concentration, or meet a combination of General Education, Rowan Experience, and Honors Concentration Requirements. Such courses are signified as follows:

(ACE) Artistic and Creative Experience

(H) Honors Concentration Course

(LIT) Broad-based literature course

(LAB) In-class laboratory experience

(PS) Public Speaking

(M/G) Multicultural/Global

(RS) Rowan Seminar

(WI) Writing Intensive

The General Education course listing can be viewed in the Approved General Education Courses section of the university catalog.

Non-Traditional-Format Undergraduate Offerings

Rowan also offers a few of its undergraduate degree programs in non-traditional modes of delivery (online, off-site, hybrid, accelerated, etc.) through the Global Learning & Partnerships (Rowan Global). For a list of available programs and related details, please visit www.rowanu.com/programs

Note: Admission to all traditional-format undergraduate programs at Rowan University is coordinated by the main Admissions Office (admissions@rowan.edu).

Admission to the non-traditional-format undergraduate programs at Rowan University is coordinated by the Rowan Global Admissions Office globaladmissions@rowan.edu or www.rowanu.com .

The Rowan Experience

All students must take courses that define the unique aspects of a Rowan University degree and are described as the Rowan Experience. The Rowan Experience consists of courses that require a demonstration of specific skills or provide specific kinds of experiences that the university deems significant for all graduates. All students must complete a course or series of courses with the following six Rowan Experience designations during their four-year education:

1. Artistic and Creative Experience **(ACE)**
2. Literature **(LIT)**
3. Multicultural/Global **(M/G)**
4. Public Speaking **(PS)**
5. Rowan Seminar **(RS)**. Rowan Seminars are to be taken by all FRESHMEN. This requirement is waived for transfer students entering with sophomore, junior or senior standing.
6. Writing Intensive **(WI)**. Writing Intensive courses MUST be taken at Rowan, and College Composition II or its equivalent must be completed prior to enrolling in a WI course.

Many courses are designated as ACE, LIT, M/G, PS, WI, and RS, including many General Education courses and many courses taken only by students within their designated major. Courses may also carry more than one designation so that one course may meet two or more Rowan Experience requirements as well as General Education or major requirements.

As noted in the previous section, **all students must take a minimum of 42 credits of General Education and Rowan Experience courses.** The purpose of this requirement is to ensure a broad-based education. Consequently, M/G, LIT, ACE, PS, WI and RS courses that are taken within the major program of study DO NOT COUNT towards this minimum total of 42 credits. Note, too, that General Education and Rowan Experience course requirements vary depending on the specific degree program, so students should plan their program of study in consultation with their academic advisors.

The specific goals of the Rowan Experience Requirements are to:

1. Help first-year students make a smooth academic transition to the university community, serious scholarship and the life of the mind (RS).
2. Develop the ability to give oral presentations on a variety of subjects that are well reasoned, ordered, correct, and appropriate for the intended audience (PS).
3. Have students explore the diverse ways in which human beings have confronted the perennial questions of human existence through various imaginative and discursive literary works (LIT).
4. Develop students' knowledge of the multi-faceted culture in which we live, contemporary social and cultural milieu, and the global implications of an increasingly interdependent and multicultural world (MG).
5. Develop the ability to create and/or critically evaluate works of art through experiential courses designed to expose students to the plastic and performing arts (ACE).

The Rowan Experience course listing can be viewed in the Approved Rowan Experience Courses section of this catalog.

Graduate & Post-Baccalaureate Programs

All post-baccalaureate and graduate-level programs (including doctoral, master level, and professional certificates) offered at Rowan University are administered by the Division of Global Learning & Partnerships Office of Graduate and Degree Completion Studies and housed across the academic colleges of Business, Communication & Creative Arts, Education, Engineering, Health Sciences, Humanities & Social Sciences, Performing Arts, Science & Mathematics; the schools of Earth & Environment and Health Professions; and Graduate School of Biomedical Sciences, Cooper Medical School of Rowan University, and Rowan School of Osteopathic Medicine.

The role of the Division of Rowan Global Learning & Partnerships (Rowan Global) is to provide leadership, coordination, and administrative support for quality post-baccalaureate and graduate-level programs at Rowan University, as consistent with national, state, and regional educational needs. Led by the Vice President of the Division of Global Learning & Partnerships and professional staff of Rowan Global, the Graduate Council, and the academic program advisors/faculty, the post-baccalaureate and graduate experiences are integral components of the overall mission of the University.

Graduate-level programs at Rowan provide those who already possess bachelor's or master's degrees an opportunity to continue to advance their education.

Rowan University Degrees Offered:

- B.A., B.F.A., B.M., B.S., B.S.N., B.G.S., M.A., M.B.A., M.B.S., M.Ed., M.E.M., M.M., M.S., M.S.N., M.S.T., Ed.S., D.O., Ed.D., M.D., Ph.D
- Certificates of Advanced Graduate Study (CAGS; post-master)
- Certificates of Graduate Study (COGS; post-baccalaureate)
- Certificates of Undergraduate Study (CUGS)
- Professional Certificates

Post-Baccalaureate programs are non-degree, undergraduate programs that enable bachelor degree holders to obtain professional certifications in a variety of areas. The requirements and curricula of the post-baccalaureate programs are often similar to the requirements and curricula listed for the corresponding undergraduate degree programs and may also have the same national accreditation and/or state approval (in the case of College of Education certifications) as the corresponding undergraduate degree programs.

Available offerings at the post-baccalaureate (undergraduate) level include but are not limited to the following certification and non-degree options:

- Post-baccalaureate (post Bachelor) programs in Applied Behavior Analysis and Cartography and GIS.
- State certifications/endorsement programs (also post Bachelor) for school nursing, principals, supervisors, teacher of students with disabilities, driver education, learning disabilities teacher consultant (LDTC), bilingual/bicultural education, English as a Second Language

Credit requirements for each program vary greatly according to level, degree and professional standards. Many programs will accept transfer credit from accredited institutions. For a full list of programs offered through Rowan Global, please visit www.rowanu.com/programs .

Rowan Global serves the adult non-traditional student population by offering programs and courses that meet the needs of individuals with busy personal and professional life-styles. Consequently, several programs are available in an accelerated format, and/or online, hybrid, or face-to-face formats at a number of locations outside of the Rowan University Main Campus. Program formats and locations are provided in the Rowan Global Learning & Partnerships Catalog (for accelerated, online and off-site undergraduate programs and all graduate and post-baccalaureate programs) under the "Programs Offered" section for each academic college.

Note: Admission to all post-baccalaureate and graduate programs at Rowan University (both traditional-format and non-traditional-format), as well as all non-traditional-format undergraduate programs, is coordinated by Rowan Global Admissions (global@rowan.edu or www.rowanu.com).

Tuition & Fees

Tuition and fees* for the Division of Global Learning & Partnerships vary with the nature of the program, location, and mode of delivery. Rowan Global costs (tuition and fees) can be found at either of these websites: www.rowan.edu/bursar or www.rowanu.com/tuition .

**Tuition and fees are subject to annual change and do not include the cost of textbooks and personal expenses.*

Outstanding Financial Obligations

The University may deny a student graduation, readmission, registration, or records because of outstanding financial obligations to the University. This action may be taken in cases where reasonable notice of a debt and the consequences of nonpayment have been given to the student. If a student does not meet his/her outstanding obligations by the established deadlines under the policy, the student will automatically be denied registration for the following semester, in addition to losing all other university services. Denial for future semesters will also be continued until such time as the obligation is met. The student will have the right to a hearing in cases of dispute concerning an obligation. The request for a hearing must be submitted in writing by the student to the appropriate department or office head in which the obligation exists. If it becomes necessary, any appeal of a decision resulting from such a hearing must be arranged through the collection manager, Business Office, Savitz Hall, or Dean of Students, Savitz Hall.

The University will have the right to withhold the degree and all records, including certification, transcripts, placement services, etc., pending satisfactory financial arrangements.

A complete text of the Outstanding Financial Obligations Policy may also be obtained from the collection manager, the business office, or the Dean of Students in Savitz Hall.

Office of the President

Ali A. Houshmand
President
856.256.4100
presidenthoushmand@rowan.edu

Robert Zazzali
Senior Vice President for Community and Economic Development
856.256.4110
zazzali@rowan.edu

Joanne Connor
Chief of Staff and Liaison to the Board of Trustees
856.256.4102
connorj@rowan.edu

The President works with the Board of Trustees and the Executive Cabinet to determine the vision and strategy for the University. The President's Office is comprised of the President, his Chief of Staff and the Senior Vice President for Community & Economic Development.

Division of Academic Affairs

James Newell
Senior Vice President and Provost
Bole Hall
856.256.4012
newell@rowan.edu

Roberta Harvey
Vice President for Academic Affairs
Bole Hall
856.256.5140
harvey@rowan.edu

Tricia Yurak
Associate Provost for Academic Affairs
Bole Hall
856.256.5144
yurak@rowan.edu

The Academic Affairs Division is headed by the Provost or Chief Academic Officer. The Provost is responsible for leadership and oversight of academic programs, faculty affairs, and library services. The Deans of the Colleges of Business, Communication & Creative Arts, Education, Engineering, Performing Arts, Humanities & Social Sciences, Science & Mathematics, and Schools of Earth and Environment, School of Health Professions, The Office Of International Initiatives & Support Services, and Thomas N. Bantivoglio Honors Concentration report to the Provost. The Office of the University Registrar, Faculty Center for Excellence in Teaching and Learning, and Assessment report to the Vice President for Academic Affairs. The Vice President and associate provosts for Academic Affairs, and Library Information Services also report to the Provost. The Provost reports directly to the President.

Division of University Research

Shreekanth Mandayam
Vice President
James Hall, Suite 3129
856.256.5333
shreek@rowan.edu

Sarah Piddington
Assistant Vice President
South Jersey Technology Park (SJTP)
856.256.5482
piddington@rowan.edu

The Office of the Vice President for Research is responsible for promoting, supporting and administering the research, scholarly and creative activity of Rowan faculty, staff and students. The Division of University Research oversees five departments.

Division of Student Affairs

Jeff Hand
Senior Vice President
Savitz Hall, Third Floor
856.256.5185
handj@rowan.edu

Rory McElwee
Vice President for Enrollment & Student Success
Savitz 323
856.256.5187
mcelwee@rowan.edu

The Division of Student Affairs encompasses several key areas at Rowan University committed to attracting high caliber students and retaining them through graduation. In short, we are a division dedicated to our students' success. Student Affairs includes the departments of Admissions, Financial Aid, University Web Services, Conference & Event Services, Student Diversity, Office of University Scheduling, Academic Success Center, Card Services Office, Community Standards, Counseling & Psychological Services, Dr. Harley E. Flack Student Mentoring Program, ACEND, Greek Affairs, Healthy Campus Initiatives, Office of Career Advancement, Orientation and Student Leadership Programs, Recreation Center, Residential Learning and University Housing, Student Activities, Student Center, Student Enrichment and Family Connections, Student Government Association, Student Health Services, Student Organizations, Volunteerism, Community Engagement, & Commuter Services, Wellness Center at Winans Hall, and in the Retention area, University Advising Services, University Transfer Services, University Retention Systems, the Office of Academic Transition & Support Programs, the Tutoring Center, and Testing Services. Together, these departments recruit students, help finance their education, advise them on college and career choices, and communicate with them via the Rowan University web and mobile sites. Our main office is in Savitz Hall but, Student Affairs is literally all over Rowan. While you may not have realized it, we met you before you first stepped foot on campus, we'll advise you while you're here and, hopefully, our impression will stay with you long after you leave. The Division of Student Affairs provides academic support and retention programs for students from their first semester through their graduation.

Richard L. Jones
Vice President and Dean of Students
Savitz Hall, Room 203
856.256.4283
jonesri@rowan.edu

The Office of the Vice President for Student Affairs and Dean of Students provides guidance and support to students in the following areas; students facing prolonged absences due to a health problem or other extenuating circumstances; reporting sexual assault; and other related student issues.

Campus Recreation

Kevin George
Director
856.256.4927
georgek@rowan.edu

Campus Recreation is committed to providing exceptional programs, services, and facilities that promote and encourage a balanced, healthy lifestyle. We are dedicated to creating a safe, welcoming, and inclusive environment that enhances student learning and skill development, fosters enjoyment and appreciation for recreational life, and enriches the quality of life for the Rowan Community.

The Recreation Center is a three-story, 76,000 square foot recreational activities facility. The building houses an eight-lane swimming pool, a three-lane indoor track, a three-court multi-sport gymnasium, five racquetball courts (one used for indoor cycling) and a group exercise room. The facility also has a 9,000 square foot fitness and weight room, conference room, locker/shower facilities, and a juice/smoothie bar and café. The main desk of the facility operates as ID access/control area, equipment checkout center, and as the program/membership registration area.

The Satellite Fitness Center is located on the corner of Mick Dr. and Victoria Ave. and encompasses over 17,000 square feet. The building offers a free weight room, spaces for functional training, connected cardiovascular equipment, non-motorized equipment, various multi-functional strength systems, and a men's, women's and inclusive locker/shower rooms.

The Recreation Center offers 18 hour days and the Satellite Fitness Center offers 16 hour days during the academic year, with modified hours during the weekends, holidays, and breaks over the course of the year.

Access to facilities, programs, and services is granted to full time students with a current and active Rowan ID card. Students taking 6 or fewer credits may purchase a membership.

Campus Recreation offers a broad range of programs and services; coordinating or co-sponsoring over 200 programs annually in the following programmatic areas: intramural sports, fitness and wellness, aquatics, sport clubs, informal recreation and special events. Although the foundation of our department rests on serving student recreational needs as a priority, we are also committed to a broader constituency.

Card Services Office

Christine Noon
Director of Card Services
Chamberlain Student Center
856-256-4531
noon@rowan.edu

The Card Services Office is responsible for managing all aspects of the official Rowan University identification card and coordination of all activities related to the use of the RowanCard. These responsibilities include managing the University wide card system applications, monitoring the University wide card systems for proper performance, coordinating all distributed responsibilities for University wide card systems, and coordinating integration of all departmental card system applications. The office provides all training related to card systems amongst all campuses. In addition, the office serves as the point of contact for students experiencing problems with their ID card.

Community Standards

Joseph Mulligan
Assistant Vice President
Chamberlain Student Center, Suite 210
856.256.4242
mulligan@rowan.edu

The Office of Community Standards articulates and upholds the standards of behavior expected within the University community. The office addresses violations of the student code of conduct through the university disciplinary system to ensure respect for all members of the community and the maintenance of a collaborative and learning-centered environment.

Counseling and Psychological Services

David F. Rubenstein, Ph.D.
Associate Vice President for Student Wellness
Wellness Center at Winans Hall
856.256.4333
wellnesscenter@rowan.edu

Counseling and Psychological Services (CPS) at the Wellness Center provides confidential mental health and substance abuse services to enrolled students. CPS provides individual and group counseling, triage and emergency evaluations, psychological testing and outreach programs in the area of mental health and substance abuse prevention. Some common areas addressed in counseling for college students include addressing academic stressors, coping with personal and family relationship issues, stress and anxiety management, coping with depression, eating and body image issues, dealing with grief and loss, trauma and substance use.

The University's Stress Management and Response Team (SMART) is coordinated through the Wellness Center and each professional staff is a core member of the team. This university-wide group is available to meet with various divisions, departments, organizations, and groups on campus in order to assist with response to traumatic events that impact particular groups of students or university community as a whole.

Healthy Campus Initiatives

Allie Pearce, MA
Assistant Director, Healthy Campus Initiatives
Wellness Center at Winans Hall
856.256.4333
hci@rowan.edu

Healthy Campus Initiatives (HCI) at the Wellness Center educates students about making healthy decisions and choices regarding their personal wellness that will enhance their college experience. All members of the Rowan community are encouraged to attend workshops, programming, and campus events aimed at increasing knowledge and developing attitudes and beliefs that promote health and wellness in several areas. These areas include suicide prevention and sexual health.

Social Justice, Inclusion and Conflict Resolution

Gardy J. Guiteau
Director
Robinson Hall, Room 118
856-256-5495
socialjustice@rowan.edu

Formed through the collaborative efforts of students, faculty and staff, the Office of Social Justice, Inclusion and Conflict Resolution exists to promote an inclusive university community where individuals are empowered to grow in their understanding of identity, social justice, and the skills needed to lead a more just society. The office provides dedicated physical space and resources for underrepresented and underserved students at Rowan University. The office serves as an umbrella for the following programs and centers:

Harley E. Flack Student Mentoring Program
Temple Jordan
Assistant Director
Robinson Hall, Room 215L
856-256-5860
harleyflackmentoring@rowan.edu

The Harley E. Flack Student Mentoring Program was founded in 1992, and provides a comprehensive array of mentoring services. Services are designed and delivered using methods based on strong evidence, which indicates that these programs support retention and student success.

Multicultural Center
John T. Mills
Assistant Director
Robinson Hall, Room 214B
856-256-5860
multicultural@rowan.edu

The Multicultural Center is an evolution of the long established Office of Multicultural Affairs, which has been merged into the new structure. The Multicultural Center serves as a resource for students from diverse cultural and identity groups, and

is intended to promote the celebration diversity, development cross cultural understanding and competency, and inclusion of diverse people in the Rowan community.

Spiritual Exploration Center
Robinson Hall, Room 215A
856-256-5860
interfaith@rowan.edu

The Spiritual Exploration Center aims to promote a campus environment that is inclusive of student's religious and spiritual identities and allows for expression and exploration of spiritual and religious beliefs and values. Programs and initiatives of the center will advance understanding and appreciation of the contributions of communities of faith.

LGBTQIA+ Center
Robinson Hall, Room 215J
856-256-5860
LGBTQ@rowan.edu

The LGBTQIA+ Center located in the Office of Social Justice, Inclusion, and Conflict Resolution (SJICR) aims to create a safe space for students who identify as LGBTQIA+ and support students' exploration of their identity. SJICR staff working to fulfill the goals of this center advocate for campus inclusion of the LGBTQIA+ community at Rowan.

Women's Center
JoAnna Murphy
Assistant Director
Robinson Hall, Room 215N
856-256-5860
women@rowan.edu

The Women's Center develops programing aimed at addressing the needs of all women and empower students to promote a campus community inclusive of all genders and respectful of gender differences. Programs and initiatives of the center will support efforts to address inequity, promote understanding of women's and gender issues, and create a space for women to build bridges and a strong sense of community.

Student Activities

Constantine Alexakos
Assistant Director
Chamberlain Student Center, Room 209
856.256.4696
alexakos@rowan.edu

The Office of Student Activities (OSA) supports the mission of the Division of Student Affairs. This office is also responsible for oversight and advising of both Rowan After Hours and Student University Programmers. Through constant collaboration with campus partners, the OSA plans and implements co-curricular programs for all students that are designed to stimulate personal development, create opportunities for student engagement, and contribute to building campus community.

Student Center

Tina Pinocci
Associate Vice President
Chamberlain Student Center
856.256.4604
pinocci@rowan.edu

The Chamberlain Student Center serves as a safe and welcoming environment with unlimited opportunities for personal development and enhanced student learning experiences. Through quality services, programs and facilities, the Student Center is "more than just a building."

The main administrative office of the Chamberlain Student Center is responsible for a variety of services within the building, including scheduling and reservations for meeting or program spaces, assistance with set-up or AV tech needs, employment of student staff, and enforcement and interpretation of building policies and procedures. The administrative staff also oversees the following service areas within the facility: the Information Desk, ID Processing Center, Profs Place, and the game room.

Additional offices and services housed within the facility include: Student Activities, Greek Life, RowanCard Services, Volunteerism, Community Engagement & Commuter Services, Student Government Association, Student University Programmers, Mailroom and Campus Dining Services (Food Court, Marketplace, Owl's Nest, Profs Place, Starbuck's, and

RoGo Convenience store and Catering).

Student Health Services

Scott Woodside
Director for Student Health Services
856.256.4333
wellnesscenter@rowan.edu

Student Health Services (SHS) at the Wellness Center strives to remove health-related barriers to learning, to promote optimal wellness, to enable students to make informed decisions about health issues, and to empower students to be self-directed and well informed health care consumers.

Licensed physicians, nurse practitioners and registered nurses provide quality, professional healthcare to all students who are matriculated and currently enrolled at Rowan University.

All incoming matriculated students must provide SHS with a complete health record that can be downloaded from our website. This packet has simple, yet detailed information regarding your immunization history and other health requirements that must be submitted by July 15th (December 15th for Spring admission).

All matriculated students are required to have health insurance as a condition of full time enrollment at Rowan University. To enroll in the health insurance plan offered by United Healthcare, visit www.firststudent.com and follow the instructions. To waive the Rowan University health insurance plan, visit the Health Insurance tab on the Bursar's Office website and follow the instructions www.rowan.edu/bursar Failure to waive the United Insurance plan will result in automatic enrollment into the plan. Further information is available at the "Health Insurance" or the "Mandatory Pre-Entrance Health Forms" tabs at the left on our website www.rowan.edu/health

Volunteerism, Community Engagement & Commuter Services

Andrew Perrone
Assistant Director
Chamberlain Student Center, Suite 210
856.256.4597
perrone@rowan.edu

The Office of Volunteerism, Community Engagement & Commuter Services provides programming, resources, and support to promote a Rowan community of active citizens. We work collaboratively with university faculty and community partners to design a range of curricular and co-curricular service-learning opportunities. Students who engage with service learning, volunteerism and community engagement at Rowan will reflect on meaningful volunteer experiences as they develop a lifelong commitment to their communities. We also collaborate with Glassboro Administration and officials to assist with community concerns that may arise related to Rowan students sharing community life with residential neighbors. Furthermore, the VCECS office also provides programming and support resources geared towards Rowan University's commuter student population.

University Advising Services

University Advising Services, UAS, is an organization of professional academic advisors within the Student Success area of the Division of Student Affairs. The hallmarks of UAS advising are exceptional student-centeredness and responsiveness; excellence in advisor training and ongoing professional development; adherence to standard advising services and protocols; and collaboration with academic units and other campus personnel and services. UAS works to construct a collaborative, learning-centered environment committed to engaging students in the development and implementation of meaningful educational goals, informed academic planning, and major selection consistent with their personal values, interests, and abilities. We also provide our students guidance with regard to effective navigation of university systems and processes. UAS partners with Departments and Colleges to provide and coordinate advising services to Rowan students in specific majors. UAS offers a range of services, including individual appointments, walk-in hours, group advising sessions in or out of class sessions, and more.

University Advising Center (UAC)
Carol Eigenbrot
Associate Director
Savitz Hall, Third Floor
856.256.4459
eigenbrotc@rowan.edu

The University Advising Center (UAC) serves as the advising hub for advising related information. In addition, academic advisors in the UAC advise all Exploratory Studies students and all students considering changing their major, as well as students in select majors.

College of Education Advising Center
Dorothy Abruzzo-Klumpp
Associate Director
James Hall, Second Floor
856.256.4420
abruzzo-klumpp@rowan.edu

The College of Education Advising Center provides academic advising for students enrolled in College of Education programs and selected School of Health Professions programs. Additionally, informational meetings are available for students considering these programs.

UAS Services for CHSS, CCCA, SEE, and CPA
Julia Beth Rey
Associate Director
James Hall, Second Floor
856.256.5871

UAS Services for RCB, CSM, and SHP
Amy Ruymann
Associate Director
Business Hall 305F
856.256.5563

Academic Success Center

John Woodruff
Director
Savitz Hall, 3rd floor
856.256.4259
successcenter@rowan.edu

The Academic Success Center provides a myriad of comprehensive programs and services that assist students in enhancing and maximizing their academic potential from Orientation through Graduation. The Center provides services in the following areas; tutorial services, veterans affairs, disability resources, testing, academic coaching program, and an array of academic support workshops. Disability Resources provides accommodations and assistance to students with various documented disabilities in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. Students who meet University admissions requirements (i.e., otherwise qualified to attend the University) are required to submit appropriate documentation so that the University can determine whether they qualify for reasonable accommodations. Veterans Affairs handles all military education benefits and provides support services for our student veterans and programming for the campus community to recognize and appreciate their contributions.

Student Access & Success Center

Penny McPherson-Myers
Associate Vice President for Diversity and Organizational Effectiveness
Savitz Hall, 3rd floor
856.256.4086
mcphersonp@rowan.edu

Achieving Success through Collaboration, Engagement and Determination (ASCEND)

Dawn Singleton
Director

ASCEND Glassboro, Savitz Hall, 3rd floor
856.256.5700
singletond@rowan.edu

ASCEND Camden, Academic Building, 2nd Fl.
856.256.9230
www.rowan.edu/ascend

The ASCEND program is an educational pipeline scholarship program for first generation, underrepresented, and/or low income students which utilizes a series of intentional programming to support students in the program. Within the ASCEND program there are two components: the Educational Opportunity Fund Program (EOF) and the RISE Program.

The EOF program provides access, preparation, orientation, and academic support for students who are among the first in their family to attend college, and for those who otherwise may face unique challenges in college due to economic, cultural, or educational circumstance.

To be considered for the EOF program, students must complete the Common Application and select EOF. The four main requirements for EOF applicants are:

1. At least one year residency in New Jersey.
2. A background of historical poverty as indicated by the Free Application for Federal Student Aid (FAFSA) and supporting documentation.
3. Potential for college level success as demonstrated by an interview, letters of recommendation, etc.
4. A High School or General Equivalency Diploma.

The RISE Program is a special admissions scholarship program designed for highly motivated students who may not meet Rowan University's regular admission criteria nor the EOF financial criteria, but would benefit from additional academic support and resources. There is no financial eligibility criteria for the RISE program. However, students are required to complete the FAFSA.

To be considered for the RISE program, students must submit the Common Application. Admissions officers identify potential candidates, review admission information and conduct student interviews to determine admittance. Selected students of the ASCEND program are conditionally admitted and required to participate in a six week summer bridge program. This program provides college survival skills, leadership skills, academic coursework and support, STEM enrichment activities, and orientation for transition into the University environment. During the summer program, the ASCEND staff evaluates the students' demonstrated ability to successfully transition into Rowan University and makes a recommendation regarding the appropriateness of fall admission.

ASCEND students are assigned an ASCEND counselor to provide a broad range of academic and personal support services, including counseling, tutoring, and leadership development from freshman year through graduation. ASCEND Counselors interact with students in individual and small group settings. Financial assistance is provided to qualified students.

The Office Of International Initiatives & Support Services

Li Yang
Robinson Hall, 117
856.256.2914

The Office of International Initiatives & Support Services is committed to comprehensive internationalization at Rowan through collaborative efforts that infuse global perspectives throughout the university's teaching, learning, and service.

The OIISS offers the expertise in international partnership development and governmental regulations pertaining to non-immigrant Visas. We are the primary facilitator for faculty, student or staff engaging internationally for their studies, research, employment, or for the development of collaborative programs and agreements with universities and organizations abroad. The OISS works closely with multiple departments at Rowan, including: Academic Colleges, Admissions, Advising, The Faculty Center, the Health Center, Residence Life, the Registrar, and Financial Aid. Through this collaboration, we can attract high quality international students and provide the support, training and services necessary for student retention and success. The OISS staff is also responsible for the ongoing support of international students and scholars through academic and cultural workshops, enrichment activities, and social programming to facilitate a positive campus experience. By engaging the wide array of expertise across our campus, our international students are integrated into campus life, thus providing opportunities for all students, faculty and staff to globalize their experiences and perspectives, a critical component of life in the 21st century.

The OIISS is responsible for the following areas:

- International Student & Scholar Support Services
  - Issue I-20s for prospective F-1 students and dependents
  - Issue DS-2019 for prosective J-1 students and dependents
  - Advise students on OPT activities and status
  - Plan and deliver arrival and orientation activities for new international students
  - Work collaboratively with Foundations Office to advise students receiving international scholarships, such as Inductotherm
- SEVIS Compliance Oversight
  - Stay up to date on federal regulations from DHS and USCIS as they impact non-immigrant students and scholars
  - Maintain compliance within SEVIS regarding university certificate and degree programs
  - Maintain institutional compliance with DHS, USCIS and DOS
- International Recruitment & Admission Strategies
  - Identify, implement and oversee strategies for increasing student enrollment, working in collaboration with the Office of Admissions
  - Oversee the International Scholarship opportunities at Rowan
- International Partnerships & Initiatives

    - Oversee government sponsored programs, such as the Brazil Science Mobility Project and Saudi Arabian Cultural Mission
    - Identify viable international partners for internationalizing student learning opportunities and faculty research opportunities
    - Work collaboratively with Academic Affairs and Office of General Counsel to implement and oversee partnerships
    - Collaborate with university advising on study abroad partnerships & initatives, and promoting study abroad opportunities throughout the university
- English Language Programs
    - Intensive 5-level English language program for international and domestic students to learn English
    - Conditional Admission Program for students applying to Rowan University
    - Pathway classes for matriculated students who need additional English language & culture support
    - Upward Bound Program pre-college program for high school English language learners in Camden City
- Campus Internationalization Initiatives
    - Plan campus activities that promote internationalization
    - Advisor to Rowan's International Student Organization
    - Plan activities for International Week
    - Collaborate with offices across the campus to develop initiatives that integrate global perspectives into every day life at Rowan
    - Cultural Liaison Program

The Office of International Initiatives and Support Services has offices at the Glassboro and Camden Campuses:

Glassboro Campus, Office of International Initiatives & Support Services, Robinson Hall 117

Camden Campus, English Language Programs, College Hall 516

Tutoring Center
Benita Regusters
Coordinator
Savitz Hall, Third Floor
856.256.4462
tutoringcenter@rowan.edu

Tutoring is available free of charge to all Rowan University undergraduate students. The Tutoring Center provides small-group or drop-in tutoring in most subject areas. Students may request academic assistance on a one time basis or may be scheduled for regular assistance on a weekly basis throughout the semester. The purpose of tutoring is to complement classroom instruction, not replace it. Workshops on learning strategies and effective study techniques are presented at various times throughout the academic year.

Division of Information Resources & Technology (IRT)

Memorial Hall
856.256.4401
irt@rowan.edu

www.rowan.edu/irt

For help with a technology-related issue, please contact:
IRT Support Center
856.256.4400
support@rowan.edu

The Division of Information Resources & Technology (IRT) provides university-wide support for all information resources governance processes, information technology infrastructure, information security, business applications, data governance, and information management services.

IRT is committed to helping students, faculty and staff with computer, network, telephone/voicemail, username/password and other technology issues. IRT provides that support via phone, email, in-person consultations and on-site visits.

By providing the university with information and technology resources and services that support and enhance academic and administrative programs, IRT promotes student-centeredness, excellence in instructional practice, quality management, and efficiency and integrity of operations.

William G. Rohrer College of Business

Sue Lehrman
Dean
Business Hall
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Stephen M. Kozachyn
Executive Director, External Affairs
Business Hall
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kozachyn@rowan.edu

Joseph A. Delgado
Senior Director of Development
Shpeen Hall
856.256.5227
delgadoj@rowan.edu

Mission

We empower students to achieve sustainable careers through professionally oriented programs and real-world immersion experiences, integrating relevant faculty research, entrepreneurial thinking, responsible leadership, and community collaboration.

We achieve our mission through a commitment to –

Professionally Oriented Programs and Sustainable Careers: Our students develop the strong disciplinary expertise, poise and professionalism necessary to excel in their first positions, as well as the skills to tackle new opportunities as technologies and business models evolve. We feature career-oriented dual-degree options, major-minor pairings, and the ability to combine certificate programs with existing majors.

Entrepreneurial Thinking and Responsible Leadership: We offer entrepreneurially focused curricular and co-curricular programs to help students develop the creativity, initiative, and persistence that characterize the entrepreneurial mindset. As a Principles for Responsible Management Education (PRME) founding signatory, we are committed to developing students' abilities to generate sustainable value for their employers and society at large.

Relevant Faculty Research: We are aligned with the University's broad definition of research, which includes activities that positively impact the educational experience, the scholarly community, and the economic vitality of the region.

Real-world Immersion and Community Collaboration: We provide multiple real-world immersion experiences for our students that set them apart in a crowded job market. This, combined with our commitment to the economic development of the region, compels us to actively engage with the business and nonprofit communities in our region in ways that benefit all.

Vision

To be a first choice business school for enterprising students and discerning employers, a research hub, and an economic catalyst for the region and beyond.

Accreditation

Rowan University's business programs are accredited by AACSB International (The Association to Advance Collegiate Schools of Business). To achieve this prestigious accreditation, the business programs successfully demonstrated a wide range of quality standards relating to faculty qualification, strategic management of resources, interactions of faculty and students, as well as a commitment to continuous improvement and achievement of learning goals in degree programs.

In addition, the College is just one of a few AACSB International schools in the nation to have the Management Information Systems Program also accredited by ABET, the Accreditation Board for Engineering and Technology, Inc.

Departments

The William G. Rohrer College of Business houses the departments of Accounting and Finance, Management and Entrepreneurship, and Marketing and Business Information Systems. (Not all departments offer programs through the Division of Global Learning & Partnerships.)

Programs Offered

All programs offered are listed below in order of degree/program type and then in alphabetical order by program name. Details about each program are then listed within the catalog in the same order. For the most up-to-date information regarding mode of delivery options for your program of interest, please visit www.rowanu.com/programs .

MASTER'S DEGREES

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Master of Business Administration	Face-to-face at Glassboro campus with some accelerated/online course options	MBA-BUS/G501	Both	36
Concentration Name		**Concentration Code**		
Accounting		P500		
Finance		P504		
Management		P522		
Management Information Systems		P521		
Supply Chain & Logistical Systems		P523		
Master of Business Administration (General Business concentration)	100% online and accelerated	MBA-BUS/G501	Part-time	36
Master of Business Administration (General Business concentration)	Face-to-face at Rowan College of Burlington County campus with some accelerated/online course options	MBA-BUS/G501	Part-time	36

CERTIFICATES OF ADVANCED GRADUATE STUDY (NON-DEGREE)

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Certificate of Advanced Graduate Study in Accounting	Face-to-face at Glassboro campus	CAG-BUSACCT/G551	Part-time	9
Certificate of Advanced Graduate Study in Finance	Face-to-face at Glassboro campus	CAG-BUSFIN/G553	Part-time	9
Certificate of Advanced Graduate Study in Management	Face-to-face at Glassboro campus with some accelerated/online course options	CAG-BUSMANG/G554	Part-time	9
Certificate of Advanced Graduate Study in Management Information Systems (MIS)	Face-to-face at Glassboro campus with some accelerated/online course options	CAG-BUSMIS/G556	Part-time	9

CERTIFICATES OF GRADUATE STUDY (NON-DEGREE)

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Certificate of Graduate Study in Accounting	Face-to-face on Glassboro campus with some accelerated/online course options	COG-ACCT/G139	Part-time	15
Certificate of Graduate Study in Business	Face-to-face on Glassboro campus with some accelerated/online course options or 100% online	COG-BUSINESS/G133	Both	15
Certificate of Graduate Study in Management Information Systems (MIS)	Face-to-face on Glassboro campus with some accelerated/online course options	COG-MIS/G131	Part-time	12

Undergraduate Programs

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Bachelor of Science in Business Administration: Global Business and Leadership	online	BUSADMIN/0501/P510	Both	

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Master's Degrees

Master of Business Administration (MBA)

The Master of Business Administration (MBA) program at Rowan University provides contemporary graduate business education to professionals from diverse fields and academic backgrounds. The program prepares students as team leaders and team players with effective interpersonal, oral, and written communication and group process skills. The MBA curriculum emphasizes critical thinking, quantitative analysis and computing applications, and the technological and international nature of business.

The Rohrer College of Business MBA program offers small class sizes with an average student/faculty ratio of 18 to 1. The program attracts graduates from business, sciences, engineering, and other programs, whose careers are leading them to positions of increasing responsibility in business or industry. Graduates are prepared to assume managerial positions in commercial, not-for-profit, and governmental organizations/agencies.

The MBA program consists of 12 graduate classes with nine required and three elective courses. For students enrolled in the face-to-face MBA, the three elective courses allow the individual student to tailor the academic program to meet his or her specific career development needs. For students enrolled in the fully online or Rowan College of Burlington County (RCBC) version of the program, the three elective courses will be offered based on availability (more information is provided below). Prospective students who do not have the required foundation courses may choose to apply directly to the MBA program, and complete their foundation courses while enrolled as a graduate student.

Rowan's Master of Business Administration (MBA) program is especially designed to accommodate both full-time students and full-time employees. The program is personal, pragmatic, and progressive. Classes are conveniently scheduled in the evening and online to accommodate demanding work schedules. Rowan's reputation makes the reasonable cost of a Rowan MBA a wise investment. Rowan's MBA tuition is among the lowest for AACSB accredited programs in the Philadelphia region.

Foundation Courses

Eligible applicants must have successfully completed the following undergraduate foundation courses at an accredited institution. (Foundation courses FC-6 and FC-7 must be completed at a 4-year institution to fulfill foundation course requirements. FC-1 through FC-5 may be taken at a junior/community college.) During the admissions process, the MBA academic advisor will determine foundation course equivalencies and how any unfinished undergraduate foundation courses can be scheduled concurrently with graduate enrollment. If applicable, official notification of any unfinished foundation courses will be included in the applicant's official admission decision letter from Rowan University.

- FC-1. Calculus Techniques & Applications (3.0 s.h.)
- FC-2. Statistics I (3 s.h.)
- FC-3. Foundations of Accounting (3 s.h.) or Principles of Accounting I & II
- FC-4. Principles of Economics: A Survey (3 s.h.) or Microeconomics & Macroeconomics
- FC-5. Principles of Marketing (3 s.h.)
- FC-6. Principles of Finance (3 s.h.)
- FC-7. Operations Management (3 s.h.)

MBA CONCENTRATIONS

The MBA program offers the degree with the following concentration options.

- Accounting
- Finance
- Management Information Systems (MIS)
- Management
- Supply Chain & Logistical Systems
- General Business* (offered fully online and to RCBC students)

Program Requirements

Required Courses 27 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
ACC 03500	Managerial Accounting	3
FIN 04500	Financial Decision Making	3
MGT 01510	Professional, Legal & Managerial Responsibilities	3
MGT 06500	Designing, Developing & Leading High Performance Organizations	3
MGT 06502	International Business and Society	3
MGT 06629	Managing Organizational Strategy	3
MGT 07500	Managerial Decision Making Tools	3
MIS 02500	Issues in Management Information Systems	3
MKT 09500	Marketing Management	3

Concentration Courses

Accounting 9 s.h.

Choose 9 s.h. from the following options

Course #	Course Title	S.H.
ACC 03502	Advanced Managerial Accounting	3
ACC 03507	Government & Not-for-Profit Accounting	3
ACC 03509	Intermediate Financial Accounting	3
ACC 03510	Financial Statement Analysis	3
ACC 03511	Introduction to Federal Taxation	3
ACC 03512	Advanced AIS & Business Process Controls	3

ACC 03513	CPA Review	3
ACC 03514	Accounting Legal Liability & Professional Responsibility	3
ACC 03515	Forensic Accounting	3

Finance 9 s.h.

Choose 9 s.h. from the following options

Course #	Course Title	S.H.
BUS 01600	Special Topics in Business Administration (finance topic)	3
FIN 04505	Advanced Financial Planning	3
FIN 04510	Quantitative Methods in Finance	3
FIN 04516	Issues in Finance	3
FIN 04518	Derivative Securities & Financial Risk Management	3
FIN 04520	Financial Modeling	3
FIN 04530	Multinational Financial Management	3
FIN 04540	Financial Institutions Management	3
FIN 04560	Fixed Income Securities	3
FIN 04600	Investment Analysis & Portfolio Management	3

Management 9 s.h.

Choose 9 s.h. from the following options

Course #	Course Title	S.H.
BUS 01600	Special Topics in Business Administration (management topic)	3
ENT 06505	Entrepreneurship & Innovation	3
HRM 06605	Strategic Human Resource Management	3
MGT 06501	Advanced Operations Management and Strategy	3
MGT 06503	Organization Development	3
MGT 06520	Global Leadership & Organization Culture	3
MGT 06601	Strategic Planning for Operating Managers	3
MGT 06603	Business Processes & Improvement	3
MGT 07600	Business Forecasting	3

Management Information Systems 9 s.h.

Choose 9 s.h. from the following options

Course #	Course Title	S.H.
MIS 02515	Electronic Commerce	3
MIS 02522	Systems Analysis & Design	3
MIS 02525	Project Management	3
MIS 02538	Database Design	3
MIS 02599	Special Topics in MIS	3

Supply Chain & Logistics Systems 9 s.h.

Course #	Course Title	S.H.
MKT 09575	Introduction to Logistics & Supply Chain Management	3
MKT 09605	Competitive Advantage Through Supply Chain Management	3

AND

Choose one (1) from the following options. 3 s.h.

Course #	Course Title	S.H.
MGT 06603	Business Processes & Improvement	3
MIS 02522	Systems Analysis & Design	3

General Business 9 s.h.

Fully online students: Choose three (3) courses from those listed above for a total of nine (9) semester hours. (Not all electives will be offered online each term. There may be options not included above.)

RCBC students: Students in the Rowan College of Burlington County program will take the following three elective courses for a total of nine (9) semester hours.

MGT 06601	Strategic Planning for Operating Managers	3
MIS 02525	Project Management	3
MKT 09575	Introduction to Logistics & Supply Chain Management	3

Total Required Credits for the Program 36 s.h.

Foundation Courses

See "Foundation Courses" above.

Graduation/Exit, Benchmark & Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The MBA is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Director Contact Information
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856.256.4025
mcfarland@rowan.edu

Certificates of Advanced Graduate Study (Non-degree)

Certificate of Advanced Graduate Study (Post-MBA CAGS) Overview

Completion of a Certificate of Advanced Graduate Study (CAGS) will afford Rowan MBA alumni as well as MBA graduates of other AACSB accredited universities the opportunity to complete an area of concentration or complete a new concentration. The Post MBA CAGS provides MBA graduates an opportunity to prepare themselves for opportunities in a rapidly changing workplace by enrolling in concentrations related to their current or expected career paths.

Concentrations

The Post-MBA CAGS program offers the following concentration options: Accounting, Finance, Management, and Management Information Systems (MIS).

Certificate of Advanced Graduate Study in Accounting (CAGS)

See "Certificate of Advanced Graduate Study (Post-MBA CAGS) Overview."

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Choose three (3) from the following options.

Course #	Course Title	S.H.
ACC 03502	Advanced Managerial Accounting	3
ACC 03507	Government & Not-for-Profit Accounting	3
ACC 03509	Intermediate Financial Accounting	3
ACC 03510	Financial Statement Analysis	3
ACC 03511	Introduction to Federal Taxation	3
ACC 03515	Forensic Accounting and Fraud Examination	3
FIN 04512	Capital Budgeting	3

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark & Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The CAGS in Accounting is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Director Contact Information
Daniel J. McFarland
Associate Dean
Business Hall
856.256.4025
mcfarland@rowan.edu

Certificate of Advanced Graduate Study in Finance (CAGS)

See "Certificate of Advanced Graduate Study (Post-MBA CAGS) Overview."

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Choose three (3) from the following options.

Course #	Course Title	S.H.
BUS 01600	Special Topics in Business Administration (finance topic)	3
FIN 04512	Capital Budgeting	3
FIN 04516	Issues in Finance	3
FIN 04518	Financial Engineering	3
FIN 04600	Investment/Portfolio Analysis	3

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark & Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The CAGS in Finance is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Director Contact Information
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856.256.4025
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Certificate of Advanced Graduate Study in Management (CAGS)

See "Certificate of Advanced Graduate Study (Post-MBA CAGS) Overview."

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Choose three (3) from the following options.

Course #	Course Title	S.H.
BUS 01600	Special Topics in Business Administration (management topic)	3
ENT 06505	Entrepreneurship & Innovation	3
ENT 06506	Corporate Entrepreneurship & New Venture Development	3
ENT 06599	Special Topics in Entrepreneurship	3
HRM 06605	Strategic Human Resource Management	3
MGT 06501	Advanced Operations Management & Strategy	3
MGT 06503	Organization Development	3
MGT 06520	Global Leadership & Organization Culture	3

MGT 06601	Strategic Planning for Operating Managers	3
MGT 06603	Business Processes & Improvement	3
MGT 07600	Business Forecasting	3

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark & Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The CAGS in Management is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Director Contact Information
Daniel J. McFarland
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Business Hall
856.256.4025
mcfarland@rowan.edu

Certificate of Advanced Graduate Study in Management Information Systems/MIS (CAGS)

See "Certificate of Advanced Graduate Study (Post-MBA CAGS) Overview."

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Choose three (3) from the following options.

Course #	Course Title	S.H.
MIS 02515	Electronic Commerce	3
MIS 02522	Systems Analysis & Design	3
MIS 02525	Project Management	3
MIS 02538	Database Design	3
MIS 02599	Special Topics in MIS	3

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark & Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The CAGS in Management Information Systems/MIS is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Director Contact Information
Daniel J. McFarland
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Certificates of Graduate Study (Non-degree)

Certificate of Graduate Study in Accounting (COGS)

The Accounting Certificate of Graduate Study (COGS) is designed so that students can expand their knowledge in specialized accounting subjects as well as obtain additional courses needed to reach the 150 credit requirement to be licensed as a CPA. Students may also choose to begin earning their MBA by first completing the COGS in Accounting.

Program Requirements

- Accounting Certificate of Graduate Study at Rowan University requires the completion of 12 graduate semester hours (s.h.) made up of 4 courses.
- Students who have not earned a bachelor's in accounting must take Managerial Accounting (ACC 03500), along with 3 electives

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Choose four (4) from the following options.

Course #	Course Title	S.H.
ACC 03502	Advanced Managerial Accounting	3
ACC 03507	Government & Not-for-Profit Accounting	3
ACC 03509	Intermediate Financial Accounting	3
ACC 03510	Financial Statement Analysis	3
ACC 03511	Introduction to Federal Taxation	3
ACC 03512	Advanced AIS & Business Process Controls	3
ACC 03513	CPA Review	3
ACC 03514	Accounting Legal Liability & Professional Responsibility	3
ACC 03515	Forensic Accounting & Fraud Examination	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

Foundations of Accounting (3.0 s.h.) or Principles of Accounting I and Principles of Accounting II

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The COGS in Accounting is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Director Contact Information
Daniel J. McFarland
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Business Hall
856.256.4025
mcfarland@rowan.edu

Certificate of Graduate Study in Business (COGS)

The Business COGS provides graduate course exposure to students who are ultimately interested in pursuing the MBA degree. There are many potential graduate students who are considering the MBA degree. However, they hesitate investing the time and energy required to complete the GMAT exam (a requirement for admission to Rowan's MBA program) without fully understanding the nature of the coursework. The purpose of the COGS in Business is to provide an opportunity for aspirant MBA applicants to take several classes before they apply to the MBA Program. Students who wish to later pursue a Rohrer College of Business MBA may have all COGS credits transferred into the Rohrer College of Business MBA program, assuming they have earned a grade of "B-" or better in all courses.

GMAT Waiver: Students who earn a 3.85 or higher cumulative GPA at the completion of all 5 COGS in Business courses will have the GMAT requirement waived, should they decide to apply to the MBA program.

Program Requirements

Required Courses 15 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
ACC 03500	Managerial Accounting	3
MGT 01510	Professional, Legal & Managerial Responsibilities	3
MGT 06500	Designing Developing & Leading High Performance Organizations	3
MIS 02500	Issues in Management Information Systems	3
MKT 09500	Marketing Management	3

Total Required Credits for the Program 15 s.h.

Foundation Courses

Eligible applicants must have successfully completed the following undergraduate foundation courses at a regionally accredited institution. During the admission process, the MBA academic advisor will determine foundation course equivalencies. If applicable, official notification of any unfinished foundation courses will be included in the applicant's official decision letter from Rowan University.

- FC-1. Foundations of Accounting or Principles of Accounting I and II
- FC-2. Principles of Marketing

Students admitted without having completed these foundation courses may complete them while enrolled in the COGS in Business program. The foundation courses must be completed before the corresponding course for which the foundation course is a pre-requisite and do not count toward the 15 required semester hours for the program.

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The COGS in Business is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Director Contact Information
Daniel J. McFarland
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856.256.4025
mcfarland@rowan.edu

Certificate of Graduate Study in Management Information Systems/MIS (COGS)

The Certificate of Graduate Study in Management Information Systems/MIS (COGS) will enhance a student's preparedness to assume jobs in a world of rapidly changing technology by preparing them to develop business solutions through the use of information and technology resources. Students will be experienced in dealing with technological issues, understand the role of humans in developing technology-based solutions, and have the ability to manage technology-related projects. Students may also choose to begin earning their MBA by first completing the COGS in MIS.

Program Requirements

Required Courses 3 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MIS 02500	Issues in Management Information Systems	3

Elective Courses 9 s.h.

Choose three (3) from the following options.

Course #	Course Title	S.H.
MIS 02515	Electronic Commerce	3
MIS 02522	Systems Analysis & Design	3
MIS 02525	Project Management	3
MIS 02599	Special Topics in MIS	3
MIS 02538	Database Design	3

Total Required Credits for the Program 12 s.h.

Foundation Courses
None

Graduation/Exit, Benchmark, and Thesis Requirements
None

Minimum Required Grades and Cumulative GPA
The COGS in Management Information Systems/MIS is a Category 3 program.
For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Director Contact Information
Daniel J. McFarland
Associate Dean
Business Hall
856.256.4025
mcfarland@rowan.edu

DEGREE COMPLETION

Bachelor of Science in Business Admin.: Global Bus. & Leadership (BSBA: GBL)

The Department of Management and Entrepreneurship coordinates the Bachelor of Science in Business Administration: Global Business and Leadership program. An interdisciplinary program, the Bachelor of Science in Business Administration: Global Business and Leadership program is a degree-completion program for students who have already completed an Associate of Science in Business Administration program. The Business Administration major is a degree for students seeking a broad-based education in business. The Global Business and Leadership concentration provides students with a broad understanding of challenges and opportunities of leading business organizations in a global environment. Offered online, the program provides maximum flexibility for students while maintaining a high level of academic rigor.

The Bachelor of Science in Business Administration requires the common Business Core of the College of Business courses. These courses provide a solid understanding of the business functions and are required of all students majoring in business. The concentration, Global Business and Leadership, consists of 11 required courses intended to provide students with an understanding of the globalization on all of an organization's business functions.

Students working toward a Bachelor of Science in Business Administration: Global Business and Leadership degree must achieve a 2.00 grade point average, overall, as well as a 2.50 grade point average in the required business courses in order to earn the degree.

General Education
All students must complete the University General Education requirements as described on page 14

Rowan Experience
All students must complete the Rowan Experience requirement as described on page 16

Required Courses (may be included in General Education) 15 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MATH 01130	Calculus I	3
or MATH 03125	Calculus Techniques and Applications	3
STAT 02260	Statistics I	3
TBD	Approved General Education Computing Course	3
ECON 04101	Introduction to Economics: Macroeconomics Perspective	3
ECON 04102	Introduction to Economics: Microeconomics Perspective	3
Business Core Courses		27 s.h.
MKT 09200	Principles of Marketing	3
ACC 03210	Principles of Accounting I	3
ACC 03211	Principles of Accounting II	3
MIS 02234	Management Information Systems	3
MGT 98242	Legal Environment of Business	3
MGT 06305	Operations Management	3
FIN 04300	Principles of Finance	3
MGT 06300	Organizational Behavior	3

MGT 06402	Business Policy	3
Concentration Courses		27 s.h.
MKT 09375	Business Logistics	3
BUS 01401	Issues in Business: Directed Research	3
MKT 09379	International Marketing	3
FIN 04435	International Financial management	3
SCL 01380	Global Supply Chain	3
MGT 06310	Leadership and Supervision for Managers	3
MGT 06304	Organizational Change and Development	3
BUS 01404	Global Business Simulation	3
Internship/Experiential learning Requirement		3

Any Supervised Internship offered by the Rohrer College of Business or designated equivalent internship, practicum, and/or cooperative learning experience, including, but not limited to, MGT06.361 Supervised Internship, MKT09.411 Supervised Internship in Marketing, and MIS02.344 Supervised internship in Management Information System.

Business electives	3

Choice of any College of any upper-division Business course.

Free Electives	7-9 s.h.
Total Required Credits for the Program	120-1 s.h.

Academic Advisor Contact Information
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College of Communication & Creative Arts

Sanford Tweedie
Dean
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Larry Butler
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History

The College of Communication was established July 1, 1996, after unanimous final approval by the Rowan University Board of Trustees at their June 1996 meeting. In 2012, the Department of Art joined the college, and the college was renamed the College of Communication and Creative Arts to reflect the full range of programs and courses.

Introduction

The College of Communication and Creative Arts at Rowan University blends the theoretical, the creative, and the practical, building upon an expansive base of general education courses that serve to develop a liberal arts perspective in all areas. Experimental learning is a strong component of the programs and internships are encouraged in all majors.

Departments

The College of Communication and Creative Arts houses six departments: Art, Communication Studies, Journalism, Public Relations and Advertising, Radio, Television, and Film, and Writing Arts. (Not all departments offer programs through the Division of Global Learning & Partnerships.)

Programs Offered

All programs offered are listed below in order of degree/program type and then in alphabetical order by program name. Details about each program are then listed within the catalog in the same order. For the most up-to-date information regarding mode of delivery options for your program of interest, please visit www.rowanu.com/programs .

MASTER'S DEGREE

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Master of Arts in Public Relations	On the Ground/Glassboro campus (some course options available online)	MA-PR/G895	Both	33
Master of Arts in Writing	Face-to-face at Glassboro campus	MA-WRITNG/G608	Both	30

CERTIFICATES OF GRADUATE STUDY (NON-DEGREE)

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Certificate of Graduate Study in Creative Writing**	Face-to-face at Glassboro campus	COG-CREATWR/G641	Both	9
Certificate of Graduate Study in Editing and Publishing for Writers**	Face-to-face at Glassboro campus	COG-EDITGPUB/G640	Both	9
Certificate of Graduate Study in Integrated Marketing Communication & New Media*	100% Online	COG- IMCNM/G132	Part-time	9
Certificate of Graduate Study in School Public Relations*, ***	100% Online	COG-SCHPR/G616	Part-time	9
Certificate of Graduate Study in Writing, Composition and Rhetoric**	Face-to-face at Glassboro campus	COG-COMRHET/G116	Both	9

Certificate of Graduate Study in Writing and New Media**	Face-to-face at Glassboro campus	COG-WRNMEDA/G642	Both	12

*courses in this program count toward the Master of Arts in Public Relations.

**courses in this program may count toward the Master of Arts in Writing.

*** courses in this program may count toward the Master of Education in Teacher Leadership.

Admissions

For the most up-to-date information regarding admission requirements, entry points, and application deadlines, please visit www.rowanu.com/programs . Click on your program of interest to be connected to program and admission details.

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Master's Degrees

Master of Arts in Public Relations (M.A.)

The Master of Arts in Public Relations emphasizes real-world applications of theories and techniques offered in an environment that emphasizes collaborative learning. The program attracts a cross section of students with experience levels ranging from recent graduates to senior managers. The Master of Arts in Public Relations curriculum grounds students in four key areas: writing, research, problem solving, and planning. While most students choose to take courses in organizational/corporate public relations, students may also choose to take a series of courses in public affairs or educational public relations and design the master's project in those areas.

Program Requirements

The following courses make up the Master of Arts in Public Relations program.

- Required Courses: 21 semester hours (s.h.)
- Elective Courses: 12 semester hours (s.h.)

Required Courses 21 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MAPR 01544	Public Relations Planning	2
MAPR 01547	Techniques in Communication	3
MAPR 01550	Introduction to Communication Research	3
MAPR 01551	Public Relations Overview	3

MAPR 01553	Graduate Case Studies in Public Relations	1
MAPR 01561	Advanced Techniques in Communication	3
MAPR 01620	Seminar in Public Relations (2 semesters)	6

Students wishing to focus on Educational Public Relations should also take FNDS 21502 Foundations of Education 3.0 and a graduate-level Psychology course.

Elective Courses 12 s.h.

Approved modules and electives (depending on concentration). Please discuss with academic advisor.

Total Required Credits for the Program 33 s.h.

Foundation Courses

Eligible applicants must have successfully completed the following undergraduate foundation course at an accredited institution. During the admissions process, the Master of Arts in Public Relations academic advisor will determine foundation course equivalencies. If applicable, official notification of any unfinished foundation courses will be included in the applicant's official admission decision letter from Rowan University.

FC-1. Publication Layout and Design (JRN 02317) (3.0 s.h.)

Students admitted without having completed this foundation course may complete it while enrolled in the Master of Arts Public Relations program. The foundation course must be taken before completing the program and does not count toward the 33 required semester hours for the master's degree.

Graduation/Exit, Benchmark, and Thesis Requirements

Students write a research project on any aspect of public affairs, educational communication, or corporate communication to complete the program. A comprehensive oral/written exam is also required. (No Thesis)

Minimum Required Grades and Cumulative GPA

The MA in Public Relations is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Bokyung Kim
301 High Street, Room 322
856-256-4293
kimb@rowan.edu

Master of Arts in Writing (M.A.)

The Master of Arts in Writing is an innovative, interdisciplinary degree that integrates the scholarship on composition and new media with the practice of creative, journalistic, academic, and electronic writing.

The Master of Arts in Writing provides students with a strong theoretical foundation in writing studies through four core courses and offers several areas in which students may develop their personal and professional goals, including composition studies, new media, and creative writing/journalism. A Master's Project is a requirement of the program.

Rowan University undergraduates majoring in the Bachelor of Arts in Writing Arts program can apply to the accelerated Bachelor of Arts/Master of Arts dual degree (4+1) program allowing them to earn both the Bachelor of Arts and Master of Arts degrees in five years. Please see information about the Bachelor of Arts/Master of Arts admissions requirements at academics.rowan.edu/ccca/departments/writingArts/AcceleratedBAMA.html for details.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MAWR 01554	Core I: Theories and Techniques for Writers	3
MAWR 01559	Core II: Research Methods for Writers	3
MAWR 01561*	Seminar I	3
MAWR 01571*	Seminar II	3

*In the Seminar I and II sequence, students complete their Master's Project.

Elective Courses 18 s.h.

- Along with the required courses, four courses (12 S.H.) must have the subject designation MAWR.
- Two graduate-level courses may have a subject designation other than MAWR. Please discuss with Academic Advisor.

Total Required Credits for the Program 30 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

Master's Project, completed as a course requirement in Seminars I and II

Minimum Required Grades and Cumulative GPA

The MA in Writing is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Ron Block
Victoria Hall
856.256.4858
Blockr@rowan.edu

Certificates of Graduate Study (Non-degree)

Certificate of Graduate Study in Creative Writing (COGS)

By participating in a curriculum that combines the writing workshop model with the study of craft through a close reading of published texts, students will engage in the advanced practices of the genres of their choice. They will learn to engage in a process of composition that, when combined with the development of a critical vocabulary, allows students to give, receive, and use criticism in their revisions. As they discover and develop their individual style, voice, and literary vision, they will acquire the discipline and the creative and organizational strategies necessary to prepare for and advance them toward publication.

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Choose three (3) from the following options.

Course #	Course Title	S.H.
MAWR 02505	Poetry Workshop	3
MAWR 02515	Creative Nonfiction Workshop	3
MAWR 02520	Writing the Novel	3
MAWR 02521	Writing the Nonfiction Book	3
MAWR 02522	Nonfiction Workshop	3
MAWR 02523	Writing the Memoir	3

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The COGS in Creative Writing is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Suzanne FitzGerald
301 W. High Street
856-256-4265
sparks@rowan.edu

Certificate of Graduate Study in Editing & Publishing for Writers (COGS)

Due to recent changes in the publishing industry (corporate mergers, ever-advancing publishing technologies, radical alterations in traditional book distribution and bookselling) writers are now compelled to be excellent editors and marketers of their own work. Utilizing a curriculum that combines advanced editing and revision of works of the student's own choice (nonfiction book, YA novel, poetry, articles and essays), along with the hands-on opportunities in classes, students will acquire a necessary understanding of contemporary editing and publishing procedures in a variety of print and digital environments, including periodicals, and digital and book publishing, as well as the discipline and organizational strategies necessary to prepare and submit a variety of types of work for publication.

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Choose three (3) from the following options.

Course #	Course Title	S.H.
MAWR 01557	Writing the Freelance Features	3
MAWR 01566	Editing the Literary Journal	3
MAWR 01622	Publishing for Creative Writers	3
MAWR 01623	Writing Stories for Children & Young Adults	3
MAWR 02521	Writing the Nonfiction Book	3

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The COGS in Editing & Publishing for Writers is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Ron Block
Victoria Hall
856.256.4858
blockr@rowan.edu

Certificate of Graduate Study in Integrated Marketing Communication & New Media (COGS)

The Certificate of Graduate Study (COGS) in Integrated Marketing Communication and New Media provides insight into how company efforts to offer greater accountability from their marketing efforts have intensified, and how new media have proliferated.

This has intensified the search for new ways to get more accountability from marketing communication efforts. The result has been a growing understanding on the part of corporate management that (1) the efficiencies of mass media advertising are not what they used to be; (2) consumers are more sophisticated, cynical, and distrusting than ever before; (3) tremendous gaps exist between what companies say in their advertising and what they actually do; and (4) in the long run, nourishing good customer relationships is far more important than making simple exchanges.

There is now a growing movement toward integrating all the messages created by various communication agencies and sent out by various departments within the company to achieve consistency. This process is known as Integrated Marketing

Communication.

Students can use the coursework from this Certificate of Graduate Study and apply it toward the Master of Arts in Public Relations program.

Program Requirements

Required Courses 3 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MAPR 01565	IMC and New Media	3

Elective Courses 6 s.h.

Choose two (2) from the following options.

Course #	Course Title	S.H.
MAPR 01550	Intro to Communication Research	3
MAPR 01563	Research, Messaging & Audience Analysis	3
MAPR 06515	Online Public Relations	3
MAWR 01555	Writing for Electronic Communities	3
MAWR 01564	Information Architecture	3

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Integrated Marketing Communication & New Media is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Suzanne FitzGerald
301 High Street
856.256.4265
sparks@rowan.edu

Certificate of Graduate Study in School Public Relations (COGS)

The School Public Relations Certificate of Graduate Study provides students with a broad overview of School Public Relations and a focus on several essential components of the field. By investigating and assessing real world case studies, students will develop an understanding of the need for formal planning and evaluation of an educational organization's public relations initiatives.

Students can use the coursework from this Certificate of Graduate Study and apply it toward the Master of Arts in Public Relations program.

Program Requirements

The School Public Relations Certificate of Graduate Study is a part-time program offered in an accelerated online format. It requires the completion of 9 graduate semester hours (3 courses) which are possible to complete in only 2 to 3 consecutive semesters. The courses that make up the School Public Relations Certificate of Graduate Study may also be applied towards Rowan University's Master of Arts in Public Relations program or the IMC & New Media Certificate program.

Coursework

The following courses make up the School Public Relations Certificate of Graduate Study program. Each course is scheduled in 8 week modules with each week of work starting every Tuesday at 8:00 a.m. and ending every Monday at midnight (Eastern Standard Time).

Required Courses 6 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MAPR 98503	School Public Relations	3
MAPR 01547	Techniques of Communication	3

Elective Courses 3 s.h.

Choose three (3) credits from any combination of the following existing communication modules:

Course #	Course Title	S.H.
MAPR 01524	Fundraising & Development	2
MAPR 01528	Global Public Relations	1
MAPR 01530	Internal Communication in Organizations	1
MAPR 01533	Crisis Public Relations	1
MAPR 01534	Small Group Communication	1
MAPR 01535	Interpersonal Communication	1
MAPR 01537	Contemporary Public Relations Challenges	1
MAPR 01538	Legislative Liaison for Public Relations Practitioners	1
MAPR 01544	Public Relations Planning	2
MAPR 01550	Intro to Communication Research	3
MAPR 01553	Graduate Case Studies in Public Relations	1
MAPR 01554	Planning & Conducting Special Events	1
MAPR 01555	Persuasive & Feature Writing	1
MAPR 01557	Using Electronic Media in Public Relations	2
MAPR 01558	Integrated Marketing Communication	1

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in School Public Relations is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Suzanne Fitzgerald
301 High Street
856.256.4256
sparks@rowan.edu

Certificate of Graduate Study in Writing, Composition & Rhetoric (COGS)

This 9-credit program for teachers and other writing professionals improves students' knowledge of contemporary theories, issues, and practices in writing and writing instruction. Students develop their writing abilities by analyzing their own writing and that of published writers. Courses emphasize composition theory, writing assessment, and the role of technology in writing.

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MAWR 01549	Issues in Composition Studies	3
MAWR 01555	Writing for Electronic Communities	3
MAWR 01556	Assessment of Writing	3

Total Required Credits for the Program 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Writing, Composition & Rhetoric is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Ron Block
Victoria Hall
856.256.4858
blockr@rowan.edu

Certificate of Graduate Study in Writing & New Media (COGS)

The Certificate of Graduate Study in Writing & New Media will increase students' awareness of composing opportunities, theories, and practices that are emerging as a result of the ubiquity of new media technologies and online writing spaces. Students will learn how to effectively compose in and for a variety of online writing spaces using a variety of modes and genres. Students will also learn theories in areas that hold significant import for understanding the implications of new media communication technologies: information architecture, visual rhetoric, social media, computers and writing, and designing with web standards. These marketable skills will enhance students' current and future career opportunities.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MAWR 01555	Writing for Electronic Communities	3
MAWR 01564	Information Architecture	3
MAWR 01620	Internet & Writing Studies	3
MAWR 01621	Visual Rhetoric & Multimodal Composition	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Writing & New Media is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Advisor Contact Information

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College of Education

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Mission

To positively impact and develop local, regional, national, and global educational communities by

- collaborating with partners in the field to promote learning and the mental and physical health of diverse learners in all settings;
- integrating teaching, research, and service to advance knowledge in the field; and,
- preparing and supporting professionals through the development of knowledge, skills and dispositions

with the ultimate goal of ensuring equitable educational opportunities for all learners.

Vision

The College of Education will be a leading force in preparing and supporting reflective practitioners who use education to transform our global society.

Accreditation

Rowan University's teacher education program, one of the largest and most comprehensive in New Jersey and in the nation, has been accredited by the National Council for Accreditation of Teacher Education (NCATE), now known as the Council for the Accreditation of Educator Preparation (CAEP), since 1956. In addition, College of Education programs have received national recognition from the following professional organizations:

- ACEI Association for Childhood Education International
- ACTFL American Council on the Teaching of Foreign Languages
- CEC Council for Exceptional Children
- ELCC Educational Leadership Constituent Council
- IRA International Reading Association
- NAEYC National Association for the Education of Young Children
- NASP National Association of School Psychologists
- NASPE National Association for Sport and Physical Education
- NCSS National Council for the Social Studies
- NCTE National Council of Teachers of English
- NCTM National Council of Teachers of Mathematics
- NSTA National Science Teachers Association
- TESOL Teachers of English to Speakers of Other Languages

In addition, the Master of Arts in Counseling in Educational Settings program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
The New Jersey State Department of Education also approves Rowan's programs.

† New Jersey Department of Education (NJDOE) Requirements and Certifications

The New Jersey Department of Education (NJ DOE), not Rowan University, grants certifications based on requirements set by the state. While coursework for specific programs meets the academic requirements for NJ DOE certification, it is the student's responsibility to ensure that all other certification requirements are met, including, but not limited to, appropriate type and level of license and years of experience. NJ DOE certification requirements are subject to change. Certification applications are evaluated, by NJ DOE, based on the most current state requirements. For current NJ DOE licensure information, go to http://www.state.nj.us/education/educators/license/.

Departments

The College of Education is composed of four (4) academic departments. They include:

- Educational Services & Leadership
- Interdisciplinary & Inclusive Education
- Language, Literacy, & Sociocultural Education
- Science, Technology, Engineering, Art, & Mathematics (STEAM) Education

(Not all departments offer programs through the Division of Global Learning & Partnerships.)

Support Services

In addition to the academic departments, the College of Education houses several offices that support the academic programs including:

The Office of Field Experiences

The Office of Field Experiences coordinates all field placements, including school or clinical settings required for graduation and state certification applications. The mission of the College of Education is to prepare educators to transform classrooms and schools into learning communities that foster academic achievement, social responsibility, personal responsibility, and social justice. The Office of Field Experiences is located in the College of Education Advising Center in Herman D. James Hall, 2nd floor. Hours are 8:30 a.m. to 4:30 p.m., Monday through Friday.

The College of Education Advising Center (CEAC)

The College of Education Advising Center provides students with the necessary support and guidance as they pursue their educational goals and courses through the College of Education. It is a resource that offers program advisement for current and prospective students. The center is focused on providing accurate and timely information to assist students who are working toward a degree and/or licensure in a number of professional education careers.

The John J. Schaub Instructional Technology Center

The John J. Schaub Instructional Technology Center consists of a Computer Laboratory and an Instructional Materials Center (IMC). The Instructional Technology Center provides facilities, technology, materials, and training in the four areas of Instructional Technology: print technology, audio-visual technology, computer technology, and integrated technology. It is the primary instructional technology resource and training facility for students and faculty in the College of Education. The IMC houses PreK-12 teaching kits and other materials related to the educational programs offered by the College of Education. It is a comfortable study space that serves as a teachers' library and workroom for students in the College of Education.

Programs Offered

All programs offered are listed below in order of degree/program type and then in alphabetical order by program name. Details about each program are then listed within the catalog in the same order. For the most up-to-date information regarding mode of delivery options for your program of interest, please visit www.rowanu.com/programs .

DOCTORAL DEGREE/EDUCATIONAL SPECIALIST DEGREE

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Doctor of Education in Educational Leadership	Face-to-face/Glassboro or Camden campus (track courses 100% online)	EDD-EDLDRSHP/D928	Part-time	60
	Blended: 60% online & 40% face-to-face at NJPSA (New Jersey Principals and Supervisor's Association) in Jamesburg, NJ (track courses 100% online)		Part-time	60
	Online with 2 residencies on the Glassboro campus		Part-time	60
Doctor of Philosophy in Education	Face-to-face/Glassboro campus	PHD-EDU/D800	Full-time	72
Educational Specialist in School Psychology: School Psychologist Certification†	Face-to-face/Glassboro campus	EDS-SCHPSYCH/ES03	Both	39

MASTER'S DEGREES

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Master of Arts in Counseling in Educational Settings†	Face-to-face/Glassboro campus (fall entry) or Face-to-face/Camden campus (spring entry)	MA-COUNEDSET/G825	Both	48
Master of Arts in Higher Education	Face-to-face/Glassboro campus	MA-HIGHED/G807	Both	31-37 depending upon track selected
Master of Arts in Learning Disabilities†	Face-to-face/Glassboro campus (with some online/accelerated course options)	MA-LRNDIS/G818	Both	33-39
Master of Arts in Reading Education Concentration: Reading Practitioner	Online	MA-READED/G830/P850	Part-time	30
Master of Arts in Reading Education Concentration: Reading Specialist†	Blended	MA-READED/G830/P851	Part-time	33
Master of Arts in STEM Education†	Blended/Glassboro campus	MA-STEM/G845	Full-time	33
Master of Arts in School Administration†	Blended: 100% online coursework with a total of 4 face-to-face meetings during the program	MA-SCHADMIN/G827	Part-time	36
	Face-to-face/Glassboro campus		Part-time	36
Master of Arts in School Psychology	Face-to-face/Glassboro campus	MA-SCHPSYCH/G822	Both	34
Master of Arts in Special Education†	Face-to-face/Glassboro campus	MA-SPECED/G809	Both	30-41 depending upon track selected
	Online		Part-time	30-41 depending upon track selected
Master of Education in Teacher Leadership	100% online or blended (depending upon content COGS selected)	MED-TCHLD/G815	Part-time	33-36 depending upon content COGS selected
Master of Science in Teaching: Subject Matter Education†	Blended/Glassboro campus	MST-SEED/G802	Full-time	36
Master of Science in Teaching: Subject Matter Education–Theatre Education†	Blended/Glassboro campus	MST-THRED/G008	Full-time	36

CERTIFICATES OF ADVANCED GRADUATE STUDY (NON-DEGREE)

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Certificate of Advanced Graduate Study in Chief School Administrator Certificate***		CAG-CHSCADCT/G634	Part-time	33
Certificate of Advanced Graduate Study in Community College Leadership***		CAG-CCLEAD/G632	Part-time	12
Certificate of Advanced Graduate Study in Educational Leadership***		CAG-EDLD/G633	Part-time	13

Certificate of Advanced Graduate Study in Principal Preparation**†	100% online	CAG-PRINCIPL/G628	Part-time	21-24 depending upon track selected

CERTIFICATES OF GRADUATE STUDY (NON-DEGREE)

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Certificate of Graduate Study in Autism Spectrum Disorders	100% online	COG-AUTDIS/G108	Part-time	15
Certificate of Graduate Study in Early Childhood Education		COG-EECE/G804	Part-time	15
Certificate of Graduate Study in Educational Technology*	100% online	COG-EDTECH/G124	Part-time	15
Certificate of Graduate Study in English as a Second Language (ESL)*†	100% online	COG-ESL/G604	Part-time	16-21 depending on teaching certification status
Certificate of Graduate Study in Enhancing Instructional Practices in Health Professions Education	100% online	COG-ENHPRAC/G103	Part-time	12
Certificate of Graduate Study in Interprofessional Health Organizations Leadership		COG-IHOL/G141	Part-time	12
Certificate of Graduate Study in Learning Disabilities	100% online or Face-to-face/Glassboro	COG-LRNDIS/G138	Part-time	15
Certificate of Graduate Study in Reading	100% online	COG-READ/G630	Part-time	15
Certificate of Graduate Study in Reading/Writing Literacy	Blended/Glassboro campus	COG-RWLITRCY/G126	Part-time	15
Certificate of Graduate Study in Special Education*	100% online	COG-SPED/G127	Part-time	18
Certificate of Graduate Study in Teaching & Learning*	100% online	COG-TCHLRN/G109	Part-time	18

CERTIFICATIONS, ENDORSEMENTS & RELATED POST-BACCALAUREATE PROGRAMS (NON-DEGREE)

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Learning Disabilities Teacher-Consultant (LDTC) Certification†	Face-to-face (with some online/accelerated course options)/Glassboro campus	GCT-LRNDIS/G618	Part-time	33
Supervisor Certification **†	100% online	GCT-SPRVSR/G629	Part-time	12
Graduate Endorsement: Bilingual/Bicultural Education†	100% online	GE-BILINGCUL/G605	Part-time	12
Graduate Endorsement for Teacher of Students with Disabilities†	Face-to-face/Glassboro campus	GE-TCHSTUDIS/G609	Part-time	21 – Program is intended for those who already have teacher certification.
	100% online		Part-time	21 – Program is intended for those who already have teacher certification.
Post-baccalaureate: Teacher of Reading †	Face-to-face/Glassboro campus	CRT-READ/9830	Part-time	30
		CRT-TCHSTDIS/9811	Full-time/Part-time	

Post-baccalaureate: Teacher of Students with Disabilities†	Face-to-face/Glassboro campus			30 – Program is 27 credits in addition to a 3-credit Teaching Literacy Foundation course
	100% online		Part-time	30 – Program is 27 credits in addition to a 3-credit Teaching Literacy Foundation course
Post-baccalaureate: School Nursing Certification †	Blended/Glassboro campus	CRT-SCHNURSG/9221	Part-time	18
Undergraduate Endorsement: Driver Education †	Blended	UE-DRIVERED/9610	Part-time	3

*Coursework in this program counts as approximately one half of the coursework required for the Master of Education in Teacher Leadership.

**Coursework in this program counts toward the coursework required for the Master of Arts in School Administration.

***Coursework in this program counts toward the coursework required for the Doctor of Education in Educational Leadership program.

† The New Jersey Department of Education (NJ DOE), not Rowan University, grants certifications based on requirements set by the state. While coursework for specific programs meets the academic requirements for NJ DOE certification, it is the student's responsibility to ensure that all other certification requirements are met, including, but not limited to, appropriate type and level of license and years of experience. NJ DOE certification requirements are subject to change. Certification applications are evaluated, by NJ DOE, based on the most current state requirements. For current NJ DOE licensure information, go to www.state.nj.us/education/educators/license/ .

Admissions

For the most up-to-date information regarding admission requirements, entry points, and application deadlines, please visit www.rowanu.com/programs . Click on your program of interest to be connected to program and admission details.

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

DOCTORAL DEGREES

Doctor of Education in Educational Leadership (Ed.D.)

The Educational Leadership doctoral program provides opportunities for students to acquire and construct knowledge that enhances their ability to transform educational institutions to meet the challenging needs of an ever-changing society. This is achieved by educating students to become reflective practitioners who comprehend and evaluate professional literature and research and who understand leadership and change. In addition, students learn how to translate the research and theory into practice.

Benchmarks & Dissertation

The Doctor of Education in Educational Leadership degree at Rowan University requires the completion of 60 graduate semester hours (S.H.) made up of 16 courses (48 S.H.) and 12 S.H. of dissertation. The program includes three distinct benchmarks. Benchmark I takes place after the completion of four of the five core courses and consists of a written assessment, followed by an interview with a committee of faculty. Benchmark II consists of a presentation of dissertation proposal to a committee of faculty. Benchmark III is the dissertation symposium.

Track Options

The doctoral program offers 3 tracks. Each track includes 4 specialized courses. All of the track courses are 8 weeks long and offered 100% online, regardless of the overall delivery format chosen. The 3 track options are:

1. Higher Education: This track is for educators who are looking to gain advanced knowledge in the field of higher education, with a special focus on administration and leadership at the post-secondary/four-year college level.
2. P-12: This track is for those educators who are looking to gain advanced knowledge in the field, with a special focus on developing the leadership skills and dispositions necessary to enact lasting and meaningful change within the preschool through secondary school levels.
3. Nurse Educator: This track is for those educators who are looking to gain advanced knowledge in the field, with a special focus on educating nurses.
4. A Community College Leadership Initiative (CCLI) track is typically offered on a biennial basis. This track is for those educators who are looking to gain advanced knowledge in the field, with a special focus on community college.

Residency Requirement

The Doctor of Eduction in Educational Leadership program is available in a number of different delivery modes, including online. Those who choose the online delivery format will be required to complete 2 residencies as outlined below:

- Residency I: Students will spend three days/two nights (Friday to Sunday) on the campus of Rowan University becoming familiar with campus resources, University policies and procedures, the mission and conceptual framework of the College, and program expectations of the Educational Leadership Department. This orientation-based residency is a wonderful introduction to the doctoral experience that serves to enhance the online learning environment by providing a face-to-face opportunity to engage with cohort members and Educational Leadership faculty and staff. Students will attend workshops designed to acquaint them with leadership development, action research and change strategies, reflective practice, social justice issues, and the development and implementation of professional learning communities. On-campus housing is available.
- One day at Rowan's Glassboro campus for the written portion of the Benchmark I exam. The exam is given twice per year. Students choose when they wish to take it after the completion of foundational first-year coursework.
- Residency II: A weekend stay at the conclusion of year two on Rowan's Glassboro campus. This residency will focus on preparing students for dissertation work and the dissertation process.

Program Requirements

Required Courses for All Tracks 36 s.h.

(S.H.: Semester Hours)

Course #	Course Title	S.H.
EDST 24503	Quantitative Analysis in Educational Research	3
EDST 24721	Action Research in Educational Leadership	3
EDST 24724	Issues in Qualitative Analysis in Educational Leadership	3
EDST 24725	Mixed Methods Research in Educational Leadership	3
EDAM 27704	Changing Organizations	3
EDAM 27719	Dissertation Seminar I	3
EDAM 27720	Dissertation Seminar II	3
EDAM 27733	The Policy Environment	3
EDAM 27750	Applied Ethics in Educational Leadership	3
EDAM 27752	Advanced Leadership	3
EDSU 28706	Diversity in Educational Leadership	3
EDSU 28715	Leadership Theory	3

Required Track Courses 12 s.h.

Doctor of Education in Educational Leadership students must complete the four courses in their selected track. (Track is selected during the application process.)

Course #	Course Title	S.H.
Higher Education Track Courses		
EDAM 27741	Current Issues in Higher Education	3
EDAM 27746	Higher Education Governance	3
EDAM 27783	Student Development & Adult Learning Theory	3
EDAM 27505	Selected Topics: Nature & Function in Higher Education	3
P-12 Track Courses		
EDAM 27714	Planning & Negotiating	3
EDAM 27735	Promoting Effective Learning	3
EDAM 27749	Issues in School Governance	3
EDAM 27790	Instructional Leadership & The Curriculum	3
Nurse Educator Track Courses		
EDAM 27783	Student Development & Adult Learning Theory	3
SNUR 92751	Instructional Design & Curriculum Development in Nursing Education	3
SNUR 92752	Nursing Program Evaluation & Information Resources	3
SNUR 92753	Practicum in Nursing	3
Community College Track Courses		
EDAM 27780	Community College Leadership & Governance	3
EDAM 27781	Community College Budgeting & Finance	3
EDAM 27782	The American Community College	3
EDAM 27783	Student Development & Adult Learning Theory	3

Required Dissertation Research Course

Doctor of Education in Educational Leadership students must complete a minimum of 12 semester hours of Dissertation Research.

Course #	Course Title	S.H.
EDST 24795	Dissertation Research	12

Note about Dissertation Research: In order to maintain matriculation in the program, students must register for at least 1 semester hour of EDST 24795 (Dissertation Research) per term until their dissertation is complete and approved and at least 12 Dissertation Research semester hours total have been completed.

Total Required Semester Hours for the Program 60 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Students must successfully complete and defend dissertation.

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks' timing and assessments will be shared with the student throughout the program by the academic advisor.*

Benchmark I:

- *Timing*: Occurs after the completion of 12 prescribed semester hours (Phase I)
- *Requirements*: Benchmark consists of two parts: A timed, written examination, followed by an interview with a committee of faculty.
- *Options*: If the student does not successfully pass the benchmark on the first try, then the student is invited to re-take the exam. Student will not be permitted to continue coursework during this time. If unsuccessful or the student chooses not to attempt the exam when offered a second time, the student will be dismissed from the program.

Benchmark II:

- *Timing*: Occurs after the completion of 30 prescribed semester hours (Phase II)
- *Requirements*: Student may present his or her dissertation proposal at a time mutually agreed upon by the student and his or her dissertation committee. The dissertation proposal must be approved before moving onto the completion of the dissertation project.
- *Options*: If the student does not successfully pass the benchmark, meaning an approved dissertation proposal is not obtained, then the student is able to revise and take again while continuing dissertation coursework.

Benchmark III:

- *Timing*: Occurs after the completion of all 60 prescribed semester hours (Phase III)
- *Requirements*: Student must successfully complete and defend a dissertation at a final symposium.
- *Options*: If the student does not successfully pass the benchmark, then the student may resubmit and defend the dissertation. If still unsuccessful, student will not be approved for graduation from the program.

Minimum Required Grades and Cumulative GPA

The EdD in Educational Leadership is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Doctor of Philosophy in Education (Ph.D.)

The Doctor of Philosophy in Education is a multi-disciplinary research-focused degree anchored in the educational complexities of access, success, and equity that is designed to prepare candidates globally to assume roles as faculty and researchers in one of four concentrations: Counselor Education, Literacy Education, Higher and Postsecondary Education, and Special Education. The unique underpinning of this program is the intersection of two primary research foci: (1) a commitment to redressing systemic and persistent barriers to quality education and (2) a dedication to using rigorous empirical research with area schools, districts, colleges, and other educational partners to improve equity in educational outcomes. The Doctor of Philosophy offers its candidates opportunities to engage in research, college level teaching, and clinical experiences that respond to the regions and the nation's persistent challenges with educational access and equity in traditionally underserved communities.

The Doctor of Philosophy at Rowan University requires the completion of 72 graduate semester hours (S.H.) made up of 18 S.H. of core courses, 12 S.H. of research courses, 21 S.H. of concentration specific courses, and 21 S.H. of dissertation.

Concentrations

The doctoral program offers 4 concentrations:

1. Counselor Education: The Counselor Education concentration is designed specifically for those who wish to pursue careers as counselor educators at the university level, or as supervisors in schools or clinical settings. The program is committed to promoting the counseling profession and evidenced-based practices and initiatives through advanced curricular experiences that address systemic and persistent barriers for P-20 students.
2. Higher and Postsecondary Education: The Higher and Postsecondary Education concentration is for students with an interest in careers as academic faculty, researchers, senior college and university administrators, and policy analysts. Our curriculum provides a strong theoretical foundation in the areas of teaching and learning; public policy and the social, economic, and political factors that impact postsecondary institutions; and educational assessment and reform.
3. Literacy Education: The Literacy Education concentration is designed for candidates interested in leadership roles in research, policy, and teaching in higher education. The courses examine influential theories and research that address the developmental, cognitive, motivational, multimodal, literary, linguistic, sociocultural and sociopolitical foundations of literacy. The program is strongly framed by a critical stance that emphasizes the transformative potential of language and literacy and the accompanying implications for educational and social change.
4. Special Education: The Special Education concentration is designed to prepare students for leadership roles in research, service, and teaching in higher education in the field of special education. Through clinical experiences, advanced courses, and research experiences, students will be prepared to develop and implement evidence-based practices that will enhance the educational outcomes of students with exceptional learning needs.

Program Requirements

Required Courses for All Concentrations 18 s.h.

(S.H.: Semester Hours)

Course #	Course Title	S.H.
CASE 90800	Current Issues and Research in Access, Success, and Equity in Education	3
CASE 90801	Research Seminar in Access, Success, and Equity	3(*6)
CASE 90802	Internship in the Academic Profession, Professoriate, and Promoting Student Success	3(*6)
CASE 90803	Equity, Success, and Access Educational Research	3

*Students will enroll in CASE 90801 and CASE 90802 twice for a total of 6 S.H. each.

Required Research Courses for all Concentrations 12 s.h.

Course #	Course Title	S.H.
CASE 90810	Organizational Analysis and Administration of Postsecondary Education	3
CASE 90811	International and Comparative Higher Education	3
CASE 90812	Public Policy and Analysis in Postsecondary Education	3

Students must select one additional research course from the following electives:

CASE 90813	Survey Research Methods in Education	3
CASE 90814	Advanced Qualitative Research Methods in Education	3
CASE 90815	Single Subject Study Design in Education	3
CASE 90816	Mixed Methods Research in Education	3
CASE 90817	Experimental Design Research Methods in Education	3

Required Concentration Courses 21 s.h.

Course #	Course Title	S.H.
Counselor Education Concentration Courses		
CASE 90820	Advocacy, Leadership, and Professional Issues in Counselor Education	3
CASE 90821	Advanced Practicum in Counseling for Equitable Career and College Readiness	3
CASE 90822	Advanced Theories of Individual and Group Counseling for Academic, Social/Emotional, and Career Development	3
CASE 90823	Supervision in Counselor Education	3
CASE 90824	Advanced Theories in Family and Systems Counseling, Consultation, and Community Engagement for Educational Access	3
CASE 90825	Practicum in Counseling Supervision	3
CASE 90826	Advanced Assessment and Program Evaluation Procedures in Counseling for Access, Equity, and Success	3
Higher and Postsecondary Education Concentration Courses		
CASE 90830	Foundations of Student Access, Retention, & Equitable Outcomes in Postsecondary Education	3
CASE 90831	Organizational Analysis and Administration of Postsecondary Education	3
CASE 90832	International and Comparative Higher Education	3
CASE 90833	Public Policy and Analysis in Postsecondary Education	3
CASE 90834	Student Learning & Development: Impact of Postsecondary Education	3
CASE 90835	Theoretical and Conceptual Frameworks in Higher Education	3
CASE 90836	Assessment and Evaluation in Postsecondary Education	3
Language and Literacy Concentration Courses		
CASE 90840	Theoretical Perspectives in the Study of Literacy	3
CASE 90841	Transliteracy and Translingualism	3
CASE 90842	Multicultural and Multilingual Issues in Literacy Education	3
CASE 90843	Literacy as Practice in and Outside of School	3
CASE 90844	First and Second Language Acquisition	3
CASE 90845	Children's Literature and Literacy Theory	3
CASE 90846	Sociolinguistics and Discourse Analysis	3
Special Education Concentration Courses		
CASE 90850	Access, Success, and Equity in Special Education	3
CASE 90851	Research to Practice in Special Education	3
CASE 90852	Program Evaluation and Planning in Special Education	3
CASE 90853	Leadership, Policy, and Ethics in Special Education	3
CASE 90854	Personnel Preparation and Effective Teaching in Special Education	3
CASE 90855	Evidence Based Practices in Special Education	3
CASE 90856	Current Issues in Special Education	3

Required Dissertation Research Course

PhD students must complete a minimum of 21 semester hours of Dissertation Research.

Course #	Course Title	S.H.
CASE 90890	Dissertation Research	21

Total Required Semester Hours for the Program 72 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Students must successfully complete and defend a dissertation.

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks' timing and assessments will be shared with the student throughout the program by the Academic Advisor.*

Benchmark I:

- *Timing*: Successful completion of Year 1 - Paper & Portfolio Review.
- *Requirements*: Students will prepare a short paper (1,000 words or less) that addresses reflections on and significant milestones regarding three prongs: 1. Concentration; 2. Program core; and 3. Research. Student should also prepare a portfolio that provides substantiating evidence for each prong.

Benchmark II:

- *Timing*: Taken at the end of year 2.
- *Requirements*: All doctoral candidates are required to pass a comprehensive examination prior to dissertation. The exam assesses candidates' knowledge of research methodology and substantive theoretical and empirical issues, and serves as assessment of competencies that are relevant to the development of the dissertation.

Benchmark III:

- *Timing*: Occurs after the completion of all 51 prescribed semester hours and successful completion of the PhD comprehensive examination.
- *Requirements*: Student must successfully complete the PhD Dissertation Proposal.

Benchmark IV:

- *Timing*: Occurs after the completion of a minimum of 21 S.H. of required dissertation research credits and successful completion of the PhD Dissertation Proposal.
- *Requirements*: Student must successfully complete the PhD Final Dissertation Defense.

Minimum Required Grades and Cumulative GPA

The PhD in Education is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Advisor Contact Information
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Educational Specialist in School Psychology – School Psychologist Certification (Ed.S.)

The Educational Specialist is an advanced degree that enables the candidate to develop practitioner expertise in psychological, educational, professional and related areas. Candidates hone skills in assessment, consultation, counseling and intervention to prepare to work with children and adolescents, parents, guardians, teacher and other educational professionals in a school setting. To earn the Educational Specialist degree, a candidate must complete all courses, a school-based 300 hour practicum, and a school-based 1200-hour externship/internship.

Upon completion of the Educational Specialist degree, candidates are eligible for New Jersey Department of Education certification as a school psychologist†. Rowan University Educational Specialist graduates may also apply to become a Nationally Certified School Psychologist (NCSP), Rowan University's School Psychology program is an approved program by the National Association of School Psychology (NASP).

Program Requirements

Required Courses 39 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CURR 29580	Fundamentals of Curriculum Development	3
EDSU 28546	Educational Organization and Leadership	3
SPSY 06627	Cognitive Assessment & Data-Based Decision Making	3
SPSY 06628	Psychoeducational Assessment & Data-Based Decision Making	3
SPSY 06629	Behavioral-Social Assessment & Data-Based Decision Making	3
SPSY 06632	School Psychology: Consultation, Collaboration & Intervention	3

SPSY 08545	Home/School/Community Collaboration	3
SPSY 08547	Professional School Psychology	3
SPSY 22623	Internship in School Psychology	3(*4)
or SPSY 22634	Internship in School Psychology	6 (*2)
SPSY 22630	Practicum in School Psychology	3

*Students should take 2-6 s.h. SPSY 22634 Internship in School Psychology courses or 4-3 s.h. SPSY 22623 Internship in School Psychology courses.

Total Required Credits for the Program 39 s.h.

Foundation Courses

Those graduate students completing the **Master of Arts in School Psychology at Rowan University** do not need to complete the following when applying for the Educational Specialist in School Psychology: a) statement of personal objectives ; b) letters of recommendation; c) interview; d) on-site writing sample or; e) pay the application fee.

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Educational Specialist in School Psychology is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Barbara Bole Williams
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MASTER'S DEGREES

Master of Arts in Counseling in Educational Settings (M.A.)

This program leads to a Master of Arts degree in Counseling in Educational Settings, and also New Jersey certification in School Counseling†. Graduates may work in elementary, middle, and/or secondary school settings, providing student counseling services. Such services include individual and group counseling for students regarding personal, social, and educational needs; consultation with faculty and other professional staff; assessment of individual students regarding personal-social, academic and career interests and needs; consultation with families regarding the individual's educational progress and career-related plans; and working cooperatively with community resources. A number of our graduates seek careers in Higher Education settings, such as Residence Hall, Student Services, and Career and Academic Planning.

Program Requirements

Required Courses 48 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
COUN 26501	Introduction to Counseling & Guidance	3
COUN 26509	Group Counseling in Educational Settings	3
COUN 26520	Design & Administration of Developmental Counseling Programs	3
COUN 26525	Multicultural Counseling & Advocacy	3
COUN 26597	Institutions & Agencies	3
COUN 26526	Individual Counseling Procedures	3
COUN 26527	Practicum/Counseling in Educational Settings	3
COUN 26524	Assessment & Appraisal Techniques in CES	3
COUN 26523	Counseling Interviewing Skills & Techniques	3
COUN 26582	Career Counseling in Educational Settings	3
COUN 26601	Internship/Counseling in Educational Settings (3 credits Fall and 3 credits Spring)	6
COUN 26603	Research & Evaluation Procedures/Counseling in Educational Settings	3
COUN 26605	Special Topics in Counseling in Educational Settings	1 (3)*

PSY 22507	Development & Learning	3
or LDTC 18510	Applied Theories of Learning	
PSY 09560	Lifespan Development	3

* Students should take 3-1 s.h. Advanced Workshops.

Total Required Credits for the Program 48 s.h.

Foundation Courses

None

Graduation/Exit/Thesis Requirements

An Action Research project is required as part of the coursework.

Minimum Required Grades and Cumulative GPA

The Master of Arts in Counseling in Educational Settings is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

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Master of Arts in Higher Education (M.A.)

The Master of Arts in Higher Education is intended for individuals who wish to pursue careers at 2 or 4 year institutions. This program offer 3 concentrations:

Administration (Concentration P807)

Graduates of this program go on to careers in student affairs including residential life, admissions, academic advising, student activity planning and programming, judicial affairs, and service learning/volunteerism.

Students in this concentration are required to prepare and keep a portfolio throughout the duration of the program experience. The portfolio serves as a tool to help faculty observe student progress and learning which is assessed through a Synthesis/Reflective Application Exercise conducted usually at the end of the first year of study but prior to enrolling in the Seminar/Internship in Higher Education Administration I capstone course.

Instruction (Concentration P808)

This concentration is intended for those who wish to pursue employment opportunities as adjunct instructors or as instructors in developmental education/ basic skills programs or in selected science disciplines at 2 or 4-year colleges (This track is not recommended for those who plan to seek full time tenure track professional positions in a specific discipline.).

This concentration is offered in a limited number of academic areas: Computer Science, Mathematics, English as a Second Language, and Reading. It is also possible to craft programs in Biology, Physics, and Chemistry. The programs in the concentration range from 31-37 credits, depending on the academic specialty:

- Computer Science (37 credits)
- Mathematics (37 credits)
- English as a Second Language (34 credits)
- Reading (31 credits)
- Academic specialties in Biology, Physics, and Chemistry may vary according to student experience. Please consult the Academic Advisor for more information.

Academic Advising

The Academic Advising concentration is intended for those individuals who wish to increase their knowledge and skills as well as those who seek an entry level position in a 2-year or 4-year college or university, specifically in an academic advising role in higher education, whether in an advising center, an academic department or college, or in a tutoring center or other specialized academic setting.

Students in this concentration are required to prepare and keep a portfolio throughout the duration of the program experience. The portfolio serves as a tool to help faculty observe student progress and learning which is assessed through a Synthesis/Reflective Application Exercise conducted usually at the end of the first year of study but prior to enrolling in the Seminar/Internship in Higher Education Administration I capstone course.

Program Requirements

Required Courses

Students select one track area from the options below and complete the listed courses.

Administration 36 s.h.

Course #	Course Title	S.H.
CURR 29504	Understanding Adult Learning & Development	3
EDAM 27620	Legal Issues in Higher Education	3
EDAM 27622	Planning & Resource Allocation in Higher Education	3
EDAM 27623	Diversity in Higher Education	3
EDAM 27628	Seminar/Internship in Higher Education Administration I (Capstone course)	3
EDAM 27629	Seminar/Internship in Higher Education Administration II (Capstone course)	3
EDAM 27637	Higher Education Administration	3
EDAM 27737	The College Student: Issues & Support Programs	3
EDST 24501	Procedures & Evaluation in Research	3
HIED 06605	Higher Education in America	3

Restricted Electives: *6 s.h. of pre-approved restricted electives. Please consult with the Academic Advisor*

Instruction 31-37 s.h.

Course #	Course Title	S.H.
CURR 29504	Understanding Adult Learning & Development	3
EDST 24501	Procedures & Evaluation in Research	3
HIED 06603	Seminar/Internship in Higher Education Instruction	3
HIED 06605	Higher Education in America	3

Restricted Electives: *18-24 s.h. of coursework in student's concentration area as determined in consultation with the Academic Advisor.*

Academic Advising 36 s.h.

Course #	Course Title	S.H.
COUN 26509	Group Counseling in Educational Settings	3
COUN 26523	Counselor Interviewing Skills & Techniques	3
COUN 26582	Career Counseling in Educational Settings	3
CURR 29504	Understanding Adult Learning & Development	3
EDAM 27620	Legal Issues in Higher Education	3
EDAM 27623	Diversity in Higher Education	3
EDAM 27628	Seminar/Internship in Higher Education Administration I (Capstone course)	3
EDAM 27629	Seminar/Internship in Higher Education Administration II (Capstone course)	3
EDAM 27630	Academic Advising in Higher Education	3
EDAM 27737	The College Student: Issues & Support Programs	3
EDST 24501	Procedures & Evaluation in Research	3
HIED 06605	Higher Education in America	3

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Administration & Academic Advising: An internship, and thesis
- Instruction: An internship, major research project, and comprehensive exam

Minimum Required Grades and Cumulative GPA

The Master of Arts in Higher Education is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

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Master of Arts in Learning Disabilities (M.A.)

The Master of Arts in Learning Disabilities is an innovative program designed to provide motivated teachers with the knowledge and skills needed to meet the multitude of challenges found in both regular and special education classrooms. The program is designed to prepare classroom teachers to meet the needs of students with learning difficulties. Collaborative field experiences are included.

This program received national accreditation and recognition from CAEP and CEC.

Program Requirements

Required Courses 39 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
LDTC 18503	Foundations of Learning Disabilities	3
LDTC 18504	Assessment of Learning Disabilities	3
LDTC 18505	Correction of Learning Disabilities	3
LDTC 18510	Applied Theories of Learning	3
LDTC 18516	Applied Tests & Measurements	3
LDTC 18520	Neurological Bases of Educational Disorders	3
LDTC 18525	Advanced Assessment Techniques	3
LDTC 18600	Seminar & Research in Learning Disabilities I	3
LDTC 18601	Seminar & Research in Learning Disabilities II	3
LDTC 18650	Clinical Experiences in Learning Disabilities*	6
READ 30530	Teaching Reading to Exceptional Children	3
SPED 08555	Education & Psychology of Exceptional Learners	3

* matriculated students only and only with permission of program advisor

Total Required Credits for the Program 39 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Students must successfully complete and defend Master's thesis.

Minimum Required Grades and Cumulative GPA

The Master of Arts in Learning Disabilities is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Master of Arts in Reading Education (M.A.)

The Masters of Arts in Reading Education is nationally accredited by the National Council for Accreditation in Teacher Education in conjunction with the International Literacy Association. Students in the program will have the opportunity to develop both a contemporary conceptual framework and effective strategies that are appropriate for guiding literacy development in classroom and clinical environments.

The goals and objectives for the program and for the individual courses therein are aligned with the International Literacy Association standards, preparing reading specialists to work with professionals and students to enable all students to meet the appropriate New Jersey Core Curriculum Standards in Language Arts/Literacy.

The course of studies provides students with an understanding of the basic principles of developmental and remedial reading instruction for grades pre-k-12. Students acquire advanced knowledge of the reading process. They engage in hands-on experiences in diagnosing and teaching learners who are having difficulty with literacy acquisition. The program prepares professionals to teach literacy to all learners and serve as leaders in supporting their colleagues in the field.

There are two concentration options in this program. The total number of required credits varies from 30-33 depending upon the concentration selected during the application process.

- **Concentration I:** Reading Practitioner is best intended for those who wish to pursue advanced study in literacy education and become more knowledgeable about instructional strategies in English Language Arts, especially those that align with the Common Core Standards. Students in this track are not required to have teaching certification, but are required to have access to a classroom and/or school district setting as well as a group of children to work with. This concentration does NOT lead to NJ Reading Specialist Certification.
- **Concentration II:** Reading Specialist is best intended for those who hold a current state teaching certificate, have at least two year's full-time teaching experience, and who want to expand their knowledge, skills, and dispositions in teaching literacy and coaching colleagues. Students learn procedures for administering reading programs in elementary and secondary schools. While enrolled in the course Clinical Experiences in Reading, students are required to engage in tutoring at the highly regarded clinic held on Rowan's Glassboro campus. There is an emphasis on reflective practice with colleagues and peer mentoring as part of this experience. This concentration leads to NJ Reading Specialist Certification†.

Program Requirements Concentration I

- The Master of Arts in Reading Education: Reading Practitioner is a part-time program offered in an accelerated online format. It requires the completion of 30 graduate semester hours (10 courses), which are possible to complete in only 5 consecutive semesters. Students must successfully complete and present a cumulative digital portfolio, which includes a comprehensive paper.

Required Courses for Concentration I 30 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
READ 30500	Theory & Practice in Literacy Education	3
READ 30510	Teaching Reading in the Elementary Schools	3
READ 30520	Content Area Literacy	3
READ 30530	Teaching Reading to the Exceptional Child	3
READ 30535	Word Study: Phonics, Spelling & Vocabulary Instruction	3
READ 30545	Using Multicultural Literature in the K-12 Reading & Writing Classroom	3
READ 30547	Teaching Literacy to English Language Learners	3
READ 30552	Teaching Writing in K-12 Classrooms	3
READ 30557	21st Century Literacy: Digital Knowledge, Digital Teaching	3
READ 30610	Literacy Assessment	3

Total Required Credits for the Program 30 s.h.

Program Requirements Concentration II

The Master of Arts in Reading Education: Reading Specialist is a part-time program offered in an accelerated hybrid format with three courses requiring face-to-face meetings on Rowan's Glassboro campus and the remaining courses taking place 100% online. It requires the completion of 33 graduate semester hours (10 courses), which are possible to complete in only 6 consecutive semesters. Students must successfully complete a comprehensive exam and thesis.

- Total semester hours required for program completion: 33 Semester Hours (s.h.)
- Thesis Requirement: Yes

Required Courses for Concentration II 33 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
READ 30515	Teaching Reading & Writing across the Grades	3
READ 30520	Content Area Literacy	3
READ 30530	Teaching Reading to the Exceptional Child	3
READ 30535	Word Study: Phonics, Spelling & Vocabulary Instruction	3
READ 30540	Administration & Supervision of School Reading Programs	3
READ 30545	Using Multicultural Literature in the K-12 Reading & Writing Classroom	3
READ 30550	Diagnosis of Remedial Reading Problems	3
READ 30560	Correction of Remedial Reading Problems	3
READ 30570	Clinical Experiences in Reading	6
READ 30600	Seminar & Research in Reading	3

Total Required Credits for the Program 33 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Students selecting Concentration I must successfully complete and present a cumulative digital portfolio, which includes a comprehensive paper.
- Students selecting Concentration II must successfully complete a comprehensive exam and defend a Master's Thesis.

Minimum Required Grades and Cumulative GPA

The Master of Arts in Reading Education is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Contact Information

Program Coordinator and Advisor
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Master of Arts in STEM Education (M.A. STEM)

The need for teachers in high-need disciplines continues to grow. This program addresses these needs by selecting exceptionally able college seniors and career changers with science, technology, engineering, or mathematics backgrounds from across the country and supporting them to develop successful careers as highly skilled math, science, and technology teachers.

The Master of Arts in STEM Education (M.A. STEM) offers the unique opportunity for students who have undergraduate degrees in the mathematics, engineering, or the sciences to pursue an initial New Jersey teaching certificate in mathematics and/or one of the sciences† and a master's degree simultaneously.

This program is carefully designed such that all coursework has a STEM (Science, Technology, Engineering, Mathematics) focus that provides the ideal pedagogical preparation for prospective Mathematics or Science teachers in the K-12 setting. This 13-month program includes an early field experience, face-to-face, online, and hybrid courses, and a year-long teacher residency. The culminating experience is a seminar in which students transition from teacher candidate to teacher by planning for leading their own classrooms.

Concentrations within the Master of Arts in STEM Education:

- Science
- Mathematics

Program Requirements

Required Courses 33 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
SELN 60576	Inclusive Instruction in STEM Classrooms	3
STEM 60501	Teaching & Research Methods I	3
STEM 60502 or STEM 60522	Teaching & Research Methods II	5
STEM 60503 or STEM 60523	Teaching & Research Methods III	6
STEM 60504	Professional Seminar for STEM Educators	3
STEM 60510	Teaching STEM in Diverse Settings	3
STEM 60512	STEM Education Residency I	1
STEM 60513	STEM Education Residency II	3
READ 30520	Content Area Literacy	3
SMED 60550	Schools and Society: Foundations for Secondary Teaching	3

Total Required Credits for the Program 33 s.h.

Foundation Courses

- Students in this program are required to meet admission course requirements in either K-12 Biology, Chemistry, Mathematics, Physical Science, or Physics NJ state certification subject areas. Please consult Academic Advisor for information.
- One course in each of the following areas: Adolescent Development, Educational Psychology , Health and Wellness Or Biology Or Nutrition

Graduation/Exit/Thesis Requirements

Exit Portfolio required.

Minimum Required Grades and Cumulative GPA

The Master of Arts in STEM Education is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Contact Information

Program Coordinator and Academic Advisor
Issam Abi-El-Mona
Herman D. James Hall
856.256.4736
abi-el-mona@rowan.edu

Master of Arts in School Administration (M.A.)

This principal preparation program provides the candidate with the opportunity to learn the diagnostic and prescriptive skills necessary to function as a collaborative leader in a P-12 learning organization. The program meets the requirements established by the New Jersey Department of Education for state certification as a public school administrator in positions such as assistant superintendent for curriculum and instruction, principal, assistant principal, vice principal, and director†. In order for candidates to qualify for the Certificate of Eligibility (C.E.) for the principal endorsement, they must achieve a satisfactory score on the School Leaders Licensure Assessment.

Program Requirements

Required Courses 36 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDSU 28510	Curriculum Design & Development for Instructional Leaders	3
CURR 29590	Curriculum Evaluation	3
EDAM 27510	Change for School Improvement	3
EDAM 27521	Introduction to the Principalship	3
EDAM 27535	School Finance & Records	3
EDAM 27559	Law & Ethics for School Leadership	3
EDAM 27600	Practicum/Seminar I in Administration & Supervision	3
EDAM 27601	Practicum/Seminar II in Administration & Supervision	3
EDST 24504	Action Research in Education	3
EDSU 28522	Instructional Leadership & Supervision	3
EDSU 28523	Building Organizational Capacity	3
EDSU 28546	Educational Organizations & Leadership	3

Total Required Credits for the Program 36 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks timing and assessments will be shared with the student throughout the program by the Academic Advisor.*

Benchmark I:

- *Timing*: Occurs after the completion of 12 prescribed credits (Phase I)
- *Requirements*: Candidates must successfully complete all Phase I courses and begin collecting a sample of course products from Phase I courses that demonstrate formative or developing achievement of appropriate ISLLC/ELCC standards to be ultimately included in final professional portfolio. Discuss details with Academic Advisor.
- *Options*: If the student does not successfully pass the benchmark, then the student is invited to re-take any necessary coursework.

Benchmark II:

- *Timing*: Occurs after the completion of 30 prescribed credits (Phase II)

- *Requirements*: Candidates must take the School Leader Licensure Assessment and have an approved tentative plan for the Practicum and Seminar in Administration and Supervision courses (internship). Discuss details with the Academic Advisor.
- *Options* : If the student does not successfully pass the benchmark, then the student is able to re-take Assessment Exam or any incomplete coursework, until such time as benchmark is passed or student is made inactive.

Minimum Required Grades and Cumulative GPA

The Master of Arts in School Administration is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Miguel Greenup
Herman D. James Hall
856.256.4500 ext. 3637
greenup@rowan.edu

Master of Arts in School Psychology (M.A.)

Completion of the Master of Arts (M.A.) in School Psychology provides a background in the theories, major knowledge, and methodological procedures in school psychology. This program (or its equivalent) is required for admission into the Educational Specialist (Ed.S.) program. The Master of Arts and Educational Specialist in School Psychology combine to meet the requirements for NJ Department of Education certification in School Psychology†.

Program Requirements

Required Courses 34 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
COUN 26509	Group Counseling in Educational Settings	3
COUN 26526	Individual Counseling Procedures	3
PSY 22602	Applied Research: School Psychology	1
LDTC 18520	Neurological Bases of Educational Disorders	3
PSY 01570	Research Methodology and Statistics in Counseling Psych	3
PSY 03624	Psychopathology of Childhood & Adolescence	3
PSY 05610	Social and Cultural Diversity	3
or COUN 26525	Multicultural Counseling	
PSY 06533	Test & Measurements	3
PSY 22507	Development & Learning	3
or PSY 09560	Lifespan Development	
PSY 22600	Seminar I: App Res in School Psychology	3
PSY 22601	Seminar II: App Res in School Psychology	3
SPED 08555	Educational Psychology of the Exceptional Learner	3

Total Required Credits for the Program 34 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Successful completion of comprehensive exam (no thesis required)

Minimum Required Grades and Cumulative GPA

The Master of Arts in School Psychology is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Barbara Bole Williams
Herman D. James Hall
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williamsb@rowan.edu

Master of Arts in Special Education (M.A.)

This advanced program is designed for individuals who possess an instructional certificate and want to pursue a Master of Arts in Special Education. The purpose of the program is to provide advanced studies focusing on educational, psychological and sociological needs of the children and youth with disabilities. The course work and related field experiences are designed to foster an understanding of students with special needs, combined with pedagogical skills to accommodate these needs and provide appropriate curriculum modifications when necessary. Upon completing the program, candidates earn a Master of Arts in Special Education.

Track Information

There are currently three track options in this program. The total number of required credits varies from 30-36 depending upon the track selected during the application process.

- **Track I: Graduate Endorsement** is designed for those who wish to qualify for State of New Jersey Teacher of Students with Disabilities Certification while simultaneously earning their Master's degree†.
- **Track II: Autism Spectrum Disorders** is designed for those who are already licensed to teach Special Education, but are interested in working with students with significant disabilities, especially autism spectrum disorders.
- **Track III: Learning Disabilities** is designed for teachers who are looking to broaden their knowledge and skills to better serve students with learning difficulties.

Program Requirements

Core Required Courses 18 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
SELN 10577	Collaborative Instruction in Inclusive Classrooms	3
SELN 10578	Administration and Supervision in Special Education	3
SELN 10582	Communication Skills for Students with Disabilities	3
SELN 10585	Educational Assessment to Endorsement	3
SELN 10600	Research Seminar in Special Education	3
SELN 10601	Research Seminar in Special Education	3

Graduate Endorsement Track 18 s.h.

Course #	Course Title	S.H.
READ 30530	Teaching Reading to Exceptional Children	3
SELN 10581	Implementing Positive Behavior Support	3
SELN 10592*	Clinical Seminar in Special Education	2
SPED 08515	Curriculum, Instruction & Transition in Special Education	3
SPED 08520*	Clinical Experiences in Special Education	4
SPED 08555	Education & Psychology of Exceptional Learners	3

** Taken after successful completion of all Graduate Endorsement track courses.*

Note: Students must complete an application on TK20 for SPED08.520.

Autism Spectrum Disorders Track 12 s.h.

Course #	Course Title	S.H.
PSY 02520	Assessments & Interventions for Social Skills & Relationships in Children	3
PSY 02600	ABC's of Applied Behavior Analysis	3
SELN 10590	Introduction to Autism Spectrum Disorders	3
SELN 10591	Instructional Methods for Students with Autism Spectrum Disorders	3

Learning Disabilities Track 15 s.h.

Course #	Course Title	S.H.
LDTC 18503	Foundations of Learning Disabilities	3
LDTC 18504	Assessment of Learning Disabilities	3
LDTC 18520	Neurological Basis of Educational Disorders	3
READ 30530	Teaching Reading to Exceptional Children	3
SPED 08555	Educational Psychology of the Exceptional Learner	3

Total Required Credits for the Program 30-36 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Students must successfully complete and defend Master's thesis.

Minimum Required Grades and Cumulative GPA

The Master of Arts in Special Education is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Academic Advisor
S. Jay Kuder, Ed.D.
Herman D. James Hall
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kuder@rowan.edu

Master of Education in Teacher Leadership (M.Ed.)

The Master of Education in Teacher Leadership program is a graduate program of Rowan University's CAEP accredited College of Education. It is designed for teachers who want to develop and hone their leadership skills but wish to remain in the classroom. Candidates work with curriculum, become mentor/master teachers, and develop programs aimed at improving schooling for all children.

The Master of Education degree program has three goals:

1. To develop teacher leaders who practice teaching skills aligned with the National Board for Professional Teaching Standards (NBPTS)'s Five Core Propositions
2. To develop teacher expertise in a content area of choice
3. To empower teachers to assume leadership roles within their schools and districts

This is a part-time program with its core courses offered in an online accelerated format. The degree requires the completion of 33 to 37 graduate semester hours (s.h.) or 11-12 courses in six consecutive semesters. The following three components make up the Master of Education in Teacher Leadership program: Core Courses in teaching and learning (18 semester hours, also offered as a separate Teaching and Learning COGS), Content Area (COGS) (15-18 semester hours), and the Program Exit (additional details below).

The six core courses for this program are offered completely online. The approved Content Area Certificates of Graduate Study (COGS) are offered in varying formats depending on the COGS (e.g., online, online and face-to-face, face-to-face Glassboro Campus, face-to-face Camden Campus).

Content Certificate of Graduate Study (COGS) Options

Following are the currently accepted Content area COGS for the Master of Education in Teacher Leadership program. Advisement for each of those COGS is managed by the department in which it is housed.

- Autism Spectrum Disorders (Interdisciplinary & Inclusive Education, Online)
- Educational Technology (STEAM Education, Online)
- ESL/Bilingual (Language, Literacy & Sociocultural Education, Online)
- Global History (History, Glassboro Campus)
- History (History, Glassboro Campus)
- Learning Disabilities (Interdisciplinary & Inclusive Education, Online)
- Middle School Mathematics (Mathematics, Glassboro Campus)
- Reading (Language, Literacy & Sociocultural Education, Glassboro Campus)
- Reading/Writing (Language, Literacy & Sociocultural Education, Glassboro Campus)
- School Public Relations (Public Relations & Advertising, Glassboro Campus)
- Special Education (Interdisciplinary & Inclusive Education, Online and Glassboro Campus)

Program Requirements

Required Courses (Core COGS/Teaching and Learning COGS courses) 19 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CURR 29580	Fundamentals of Curriculum Development	3
EDUC 01624	Educational Change	3
ELEM 02511	Learning Community Classrooms	3

ELEM 02550	Analysis of Classroom Teacher Behaviors	3
LDTC 18510	Applied Theories of Learning	3
READ 30566	Researching Classroom Practice	3
ELEM 02602	Self-Study in Teacher Leadership	1

If students hold National Board certification, two courses in the Core/Teaching and Learning COGS will be waived.

Required Content Area Courses 12-18 s.h.

Choose one of the Content Area COGS options listed and follow the course requirements as listed in this catalog.

Total Required Credits for the Program 31-37 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Three mandatory, face-to-face meetings at Rowan University's Glassboro campus.

1. **Orientation**: Overview of the program; clarification of program requirements and expectations; discussion about the coaching process; information regarding program Exit Requirements.
2. **Exit Meeting** (Scheduled at the beginning of the last semester of coursework): Review of National Board Standards and Rowan Principles; discussion of Portfolio theme; clarification of expectations and requirements for the Synthesis Portfolio and Teacher Leadership Presentation; review of grading rubric for the Portfolio and Presentation; review of dates when the Presentations will take place; review of Portfolios submitted by program graduates.
3. **Teacher Leadership Presentation for Self Study in Teacher Leadership Course**

Professional Synthesis Portfolio: A reflection on the program's core course assignments and the candidate's content COGS assignments and how these have helped the candidate meet the program's 8 standards for teacher leadership.

For additional details, please consult the Academic Advisor.

Minimum Required Grades and Cumulative GPA

The Master of Education in Teacher Leadership is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Academic Advisor
Dr. Yvonne Rodriguez, Ed.D.
Herman D. James Hall
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Master of Science in Teaching in Subject Matter Education (M.S.T.)

The Master of Science in Teaching (M.S.T.) in Subject-Matter (P-12) Education program offers the unique opportunity for students to pursue an initial New Jersey teaching certificate† and a Master's degree simultaneously. The program is designed to prepare individuals who have undergraduate degrees to be certified as subject-matter (P-12) teachers. Students whose undergraduate degree is in a professional or technical area may need to take as many as 30 additional credits in the desired content discipline necessary to meet certification requirements before being accepted into the program. Questions about appropriate undergraduate majors, academic sequences or pre-requisites should be directed to the program advisor. The subject-matter program is designed for prospective social studies, English, or Spanish teachers. The Master of Science in Teaching program is a full-time program. The program cycle includes three consecutive terms beginning with a summer term and concluding after spring term.

Subject Matter Focus Areas

The following focus areas are available in the Subject Matter Education program. (Candidates will officially declare their focus area at the time of application.):

- P-12 English
- P-12 Foreign Language
- P-12 Social Studies

There is also an option for Subject Matter Education – Theatre Education, which has its own catalog entry in this section.

Program Requirements

Required Courses		36 s.h.
(s.h.: semester hours/credit hours)		
Course #	**Course Title**	**S.H.**
EDUC 01500	Trends & Practices in Classroom Teaching	3
EDUC 01601	Clinical Internship I [FIELD PLACEMENT; 3 full days per week]	3
EDUC 01605	Clinical Internship II [FIELD PLACEMENT ; 5 full days per week]	7
EDUC 01610	Teaching for Equity & Achievement in Diverse Classrooms	3
EDUC 02602	MST Professional Seminar	1
EDST 24504	Action Research in Education	3
EDST 24608	Internship Project Report [INDEPENDENT STUDY]	1
ELEM 02511	Learning Community Classrooms	3
READ 30520	Content Area Literacy	3
SELN 10576	Effective Inclusive Instruction	3
SMED 60500	Teaching Methods I [Subject Area]	3
SMED 60501	Teaching Methods II [Subject Area]	3
Total Required Credits for the Program		36 s.h.

Foundation Courses

For a list of foundation courses for each focus area, please contact the Academic Advisor.

Graduation/Exit, Benchmark, and/or Thesis Requirements

Students must successfully complete an Action Research Project, as part of the coursework.

Minimum Required Grades and Cumulative GPA

The Master of Science in Teaching in Subject Matter Education is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator
Yvonne Rodriguez
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Academic Advisor
Alicia Groatman
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Master of Science in Teaching in Subject Matter Education – Theatre Education (M.S.T.)

The Master of Science in Teaching (M.S.T.) in Theatre Education program offers the unique opportunity for students to pursue an initial New Jersey teaching certificate† and a Master's degree simultaneously. The program is designed to prepare individuals who have undergraduate degrees to be certified P-12 Theatre teachers. Students whose undergraduate degree is in a professional or technical area may need to take as many as 30 additional credits in the desired content discipline necessary to meet certification requirements before being accepted into the program. Questions about appropriate undergraduate majors, academic sequences or pre-requisites should be directed to the program advisor. The Theatre Education program is designed for those with undergraduate theatre degrees who wish to teach theatre in P-12 classrooms. The Master of Science in Teaching program is a full-time program. The program cycle includes three consecutive terms beginning with a summer term and concluding after spring term.

Program Requirements

The Rowan University Master of Science in Teaching (M.S.T.) Theatre Education program requires the completion of 36 semester hours (s.h.) on the Glassboro or Camden, NJ campus.

- Total semester hours required for program completion: 36 s.h.

• Thesis Requirement: No

Required Courses 36 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDST 24504	Action Research in Education	3
EDST 24608	Internship Project Report [INDEPENDENT STUDY]	1
EDUC 01500	Trends & Practices in Classroom Teaching	3
EDUC 01601	Clinical Internship I [FIELD PLACEMENT; 3 full days per week]	3
EDUC 01605	Clinical Internship II [FIELD PLACEMENT; 5 full days per week]	7
EDUC 01610	Teaching for Equity & Achievement in Diverse Classrooms	3
EDUC 02602	MST Professional Seminar	1
ELEM 02511	Learning Community Classrooms	3
READ 30520	Content Area Literacy	3
SELN 10576	Effective Inclusive Instruction	3
SMED 60500	Teaching Methods I	3
THD 07525	Theory & Practice in Teaching Theatre	3

Total Required Credits for the Program 36 s.h.

Foundation Courses

Bachelor's degree should include at least 30 credits from an accredited, four year institution in a coherent sequence in the prospective content area, for which 12 credits must be at the junior, senior, or graduate level.

Graduation/Exit, Benchmark, and/or Thesis Requirements

Students must successfully complete an Action Research Project, as part of the coursework.

Minimum Required Grades and Cumulative GPA

The Master of Science in Teaching in Theatre Education is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator
Raymond Foley
Herman D. James Hall
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Certificates of Advanced Graduate Study (Non-degree)

Certificate of Advanced Graduate Study in Chief School Administrator Certificate (CAGS)

The Certificate of Advanced Graduate Study (CAGS) in Chief School Administrator is designed to provide students with the course content and internship totaling 33 credit hours past the master's degree necessary for the certification from the State of New Jersey†. New Jersey requires 30 credit hours in advanced graduate study and a 150 hour internship (33 credits total) in addition to the master's degree as part of the certification process for candidates without a Master's Degree in Educational Leadership and 5 years experience as a principal. It also enables students interested in advanced competency coursework to engage with relevant coursework without matriculating into the Doctor of Education program. The CAGS also allows students who are unsuccessful in the doctoral program as a result of an inability to pass the Benchmark II (BMII) [the program's comprehensive exam] to be recognized for the successful completion of the program's core courses. A student who has made a B- or better, and earned no more than two B-, in the required courses may be eligible for the CAGS in Chief School Administrator Certification.

Program Requirements

Required Courses 33 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDSU 28715	Leadership Theory	3
EDSU 28706	Diversity in Educational Leadership	3
EDST 24721	Action Research in Ed Leadership	3
EDAM 27704	Changing Organizations	3
EDAM 27733	The Policy Environment	3
EDAM 27750	Applied Ethics of Educational Leadership	3
EDAM 27714	Planning and Negotiating	3
EDAM 27735	Instructional Leadership and The Curriculum	3
EDAM 27749	Issues in School Governance	3
EDSU 28602	Field Service in Supervision: District Internship	3
TBD	Internship	3

Total Required Credits for the Program 33 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

A student who has received a grade of B- or better in these 11 courses is eligible for the CAGS. The CAGS in Chief School Administrator is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Mike Greenup
Herman D. James Hall
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greenup@rowan.edu

Certificate of Advanced Graduate Study in Community College Leadership (CAGS)

The Certificate of Advanced Graduate Study (CAGS) in Community College Leadership enables students interested in advanced competency coursework to engage with relevant coursework without matriculating into the Doctor of Education program. Current and future community college leaders who have a master's degree and experience in other higher education sectors or industry will seek out the Certificate of Advanced Graduate Study in Community College Leadership to gain requisite understanding of the 2-year college sector. The CAGS in Community College Leadership also allows students who are unsuccessful in the doctoral program as a result of an inability to pass the Benchmark II (BMII) [the program's comprehensive exam] to be recognized for the successful completion of the program's core courses and the community college specific track courses. A student who has made a B- or better, and earned no more than two B-, in the required courses may be eligible for the CAGS in Community College Leadership.

The program focuses on the principles and techniques of administering community and junior colleges and related postsecondary systems, the study of community and junior colleges as objects of applied research, and that may prepare individuals to function as administrators in such settings; and includes instruction in community and junior college finance; policy and planning studies; curriculum; student services; research on community and junior colleges; and issues of evaluation and accountability.

Program Requirements

Required Courses 13 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDAM 27784	Introduction to the Community College	1
EDAM 27704	Changing Organizations	3
EDAM 27782	The American Community College	3

EDAM 27780	Community College Leadership And Governance	3
EDAM 27781	Community College Budgeting And Finance	3

Total Required Credits for the Program 13 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Minimum Required Grades and Cumulative GPA

The Certificate of Advanced Graduate Study in Community College Leadership is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Maria Lanza-Gladney
Herman D. James Hall
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lanza-gladney@rowan.edu

Certificate of Advanced Graduate Study in Educational Leadership (CAGS)

The Certificate of Advanced Graduate Study (CAGS) in Educational Leadership enables students interested in advanced leadership coursework to engage with foundational courses without matriculating into the Doctor of Education program. The program focuses on the general principles and techniques of administering a wide variety of schools and other educational organizations and facilities, supervising educational personnel at the school or staff level, and it may prepare individuals as general administrators and supervisors. These courses convey key concepts related to leadership, organizational development and change, research, and diversity. Students who complete these courses are familiar with foundational theories in Educational Leadership and the application of these theories to changing educational organizations into learning organizations committed to access, success, and educational equity for all stakeholders. A student who has made a B- or better in the four core courses (as a matriculated or non-matriculated student) may be eligible for the CAGS in Educational Leadership.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDSU 28715	Leadership Theory	3
EDST 24721	Action Research in Educational Leadership	3
EDSU 28706	Diversity in Educational Leadership	3
EDAM 27704	Changing Organizations	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Minimum Required Grades and Cumulative GPA

The Certificate of Advanced Graduate Study in Educational Leadership is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Ane Turner Johnson
Herman D. James Hall
856.256.3818
johnsona@rowan.edu

Certificate of Advanced Graduate Study in Principal Preparation (CAGS)

This program meets the requirements specified by the state of New Jersey†, including a 300 hour internship and is designed to serve the person who has already earned a master's degree in some field and who wants to qualify as a principal in the

public schools. The Principal's Certification Program comprises two different tracks. Applicants must select a track that best meets their needs (based on supervisory experience and NJ Certification code) at the time of admission.

Track Information There are two track options in this program. The total number of required credits varies from 21-24 depending upon the track selected during the application process.

- Track I is for those candidates with a master's degree, supervisor's certificate, and 5 years or more of supervisory experience. Track I students are required to complete 7 courses†.
- Track II is for those candidates with a master's degree, supervisor's certificate, 5 years of full-time teaching experience, and 0-5 years of supervisory experience. Track II students are required to complete 8 courses†.

Program Requirements for Track I

Required Courses 21 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDAM 27510	Change for School Improvement	3
EDAM 27521	Introduction to the Principalship	3
EDAM 27535	School Finance & Records	3
EDAM 27559	Law & Ethics for School Leadership	3
EDAM 27600	Practicum/Seminar I in Administration & Supervision	3
EDAM 27601	Practicum/Seminar II in Administration & Supervision	3
EDSU 28523	Building Organizational Capacity	3

Total Required Credits for the Program 21 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks' timing and assessments will be shared with the student throughout the program by the Academic Advisor.*

Benchmark I:

- *Timing*: Occurs after the completion of 12 prescribed credits
- *Requirements*: Candidates must achieve a passing score on the School Leader Licensure Assessment and have an approved tentative plan for the Practicum and Seminar in Administration and Supervision courses (internship). Discuss details with the Academic Advisor.
- *Options*: If the student does not successfully pass the benchmark, then the student is able to re-take Assessment Exam or any incomplete coursework, until such time as benchmark is passed or student is made inactive.

Program Requirements for Track II

Required Courses 24 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDAM 27510	Change for School Improvement	3
EDAM 27521	Introduction to the Principalship	3
EDAM 27535	School Finance & Records	3
EDAM 27559	Law & Ethics for School Leadership	3
EDAM 27600	Practicum/Seminar I in Administration & Supervision	3
EDAM 27601	Practicum/Seminar II in Administration & Supervision	3
EDSU 28522	Instructional Leadership & Supervision (Track II only)	3
EDSU 28523	Building Organizational Capacity	3

Total Required Credits for the Program 24 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks' timing and assessments will be shared with the student throughout the program by the Academic Advisor.*

Benchmark I:

- *Timing*: Occurs after the completion of 12 prescribed credits

- *Requirements*: Candidates must achieve a passing score on the School Leader Licensure Assessment and have an approved tentative plan for the Practicum and Seminar in Administration and Supervision courses (internship). Discuss details with the Academic Advisor.
- *Options*: If the student does not successfully pass the benchmark, then the student is able to re-take Assessment Exam or any incomplete coursework, until such time as benchmark is passed or student is made inactive.

Minimum Required Grades and Cumulative GPA

The Certificate of Advanced Graduate Study in Principal Preparation is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Miguel Greenup
Herman D. James Hall
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Certificates of Graduate Study (Non-degree)

Certificate of Graduate Study in Autism Spectrum Disorders (COGS)

The Certificate of Graduate Study in Autism Spectrum Disorders program is designed to enable school professionals and behavior specialists to develop their knowledge about students on the autism spectrum and to learn about instructional strategies for this rapidly expanding population. Students will understand the definition and causes of the various syndromes within the broad category of Autism Spectrum Disorders (ASD). They will also learn how to design and modify instruction for individuals with ASD to address their learning, social, behavior, and communication needs.

Program Requirements

Required Courses

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
PSY 02520	Assessment & Interventions for Social Skills & Relationships in Children	3
PSY 02600	ABC's of ABA	3
SELN 10582	Communication Skills for Students with Disabilities	3
SELN 10590	Introduction to Autism Spectrum Disorders	3
SELN 10591	Instructional Methods for Students with Autism Spectrum Disorders	3
Total Required Credits for the Program		15 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Autism Spectrum Disorders is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
S. Jay Kuder
Herman D. James Hall
856.256.5659
kuder@rowan.edu

Certificate of Graduate Study in Early Childhood Education (COGS)

The Certificate of Graduate Study program is a graduate level certificate program offered to teachers with teaching certificates in another grade level such as Subject Matter Education or Elementary Education and enables them to add an endorsement for teaching at P-3 grade level†.

Program Requirements

Required Courses

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
ECED 23511	Supporting Social/Emotional Development of Young Children	3
ECED 23512	Exploring the World: Literacy, Social Studies & Creative Experience in Early Childhood	3
ECED 23513	Assessment in Early Childhood Education	3
ECED 23514	Family, Community, and Professional Ethics	3
ECED 23515	Young Scientists: Science, Technology, Engineering, and Math Experiences in Early Childhood	3

Total Required Credits for the Program 15 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Early Childhood Education is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Zeynep Isik-Ercan
Herman D. James Hall
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ercan@rowan.edu

Certificate of Graduate Study in Educational Technology (COGS)

The Certificate of Graduate Study in Educational Technology aims to provide educators with the knowledge and proficiencies needed to incorporate existing and emerging educational technologies into their classroom. Individuals completing this program will not only be skilled in the use of computers in the classroom, they will be prepared to assume leadership roles in educational technology in preschool to twelfth grades.

Program Requirements

The Educational Technology Certificate of Graduate Study is a part-time program offered in an accelerated online format. It requires the completion of 15 graduate semester hours (5 courses) in 2.5 consecutive semesters. The courses that make up the Educational Technology Certificate of Graduate Study also serve as content area courses for the Master of Education (M.Ed.) in Teacher Leadership program. Therefore, the semester hours earned in the Certificate of Graduate Study are applicable to the Master of Education Degree requirements. In order to be admitted to the Master of Education Degree program, students must submit a separate application.

Required Courses 15 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDTC 33510	Computers & the Curriculum	3
EDTC 33580	Introduction to Educational Technology	3
EDTC 33584	Desktop Publishing in the Educational Environment	3
EDTC 33585	Internet in the Classroom	3
SPED 08540	Technology for Students with Special Needs	3

Total Required Credits for the Program 15 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Educational Technology is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Contact Information

Program Coordinator
Lara English-Hill
Herman D. James Hall 2034
englishhill@rowan.edu

Certificate of Graduate Study in English as a Second Language (COGS)

There is a critical need for highly qualified teachers trained to work with the growing numbers of English language learners in United States schools. This program is open to candidates who possess NJ standard or CEAS instructional certification in other areas, as well as to alternate route candidates who are eligible for NJ instructional certification and have already completed their clinical practicum. The program is approved by the New Jersey State Department of Education†.

Specific program objectives are to: (1) develop multifaceted understandings of the unique needs, challenges, and experiences of ELL students in order to advocate for their success; (2) develop curriculum, including lesson and unit plans, that integrates language and content for ELL students at various levels of English proficiency; and (3) instruct ELL students using cutting-edge, research-based teaching methods.

The ESL Certificate of Graduate Study also represents an opportunity for prospective teachers of ESL to continue their professional development in the Master of Education in Teacher Leadership and in the Master of Arts in Higher Education, Instructional Track.

Program Requirements

Required Courses 16 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
BLED 40510	Issues of Language & Cultural Diversity in ESL/Bilingual Programs	3
BLED 40512	Linguistics & Second Language Acquisition for Teaching Languages	3
BLED 40515	Language, Culture & Communication	3
BLED 40520	Planning, Teaching & Assessment in ESL	3
BLED 40522	Integrating Language & Content in ESL/Bilingual Education	3
BLED 40523	Practicum in Teaching ESL	1

Total Required Credits for the Program 16 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in English as a Second Language is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Sora Suh
Herman D. James Hall
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suh@rowan.edu

Certificate of Graduate Study in Enhancing Instruct'l Practices in Health Professions Ed. (COGS)

Healthcare professions educators, in addition to content expertise in clinical areas, must attain pedagogical and curriculum development skills absent from standard medical education training. The Certificate of Graduate Study in Enhancing Instructional Practices in Health Professions Education develops medical school faculty members and other health professionals as master educators and academic leaders. These professionals learn an array of clinical teaching strategies, as well as adult learning or andragogy, written and clinical assessment, curriculum/program development and management, and teaching and communicative proficiency. The certificate develops students' effectiveness in the field of health professions education, benefiting their students and, ultimately, patients and the healthcare system.

Program Requirements

The program consists of 4 graduate courses (12 S.H)

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CURR 29503	Teaching Adult Learners	3
EDAM 27742	The Curriculum of Higher Education	3
HIED 06610	Assessment & Evaluation in Health Professions Education	3
HIED 06611	Applied Instructional Techniques & Practices	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Enhancing Instructional Practices in Health Professions Education is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Burton Sisco
Herman D. James Hall
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sisco@rowan.edu

Certificate of Graduate Study in Interprofessional Health Organizations Leadership (COGS)

This Certificate of Graduate Study (COGS) has been developed within the existing Higher Education program with the goal of developing medical school faculty members and other health professionals as master educators and academic leaders. These professionals will learn about leadership, organizational change and development, as well as continuous improvement and professional development.

The Certificate of Graduate Study also emphasizes creating learning organizations as well as understanding and developing organizational cultures. These courses will help participants develop their effectiveness in the field of health professions educational leadership, benefiting their students and, ultimately, patients and the healthcare system. The Certificate of Graduate Study has been developed within the Higher Education program housed in the College of Education, with the help and input of Rowan medical faculty and administrators from both Camden Medical School of Rowan University and Rowan School of Osteopathic Medicine, to ensure that it addresses the needs of health professionals.

Program Requirements

The program consists of 4 graduate courses (12 semester hours). Two courses are currently offered in the Educational services and Leadership Department and Master of Arts in Higher Education Program. The two others are proposed as a component of this Certificate of Graduate Study.

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
EDSU 28715	Leadership Theory	3
HIED 06612	Org. Development: Understanding the Structure, Function, & Cultures of Health Orgs.	3
HIED 06613	Professional Development: Promoting a Culture of Continuous Improvement in Health Orgs.	3
EDAM 27625	Change in Higher Education	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Interprofessional Health Organizations Leadership is a Category X program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Burton Sisco
Herman D. James Hall
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Certificate of Graduate Study in Learning Disabilities (COGS)

The Certificate of Graduate Study in Learning Disabilities Program (COGS in LD) is designed for teachers who are looking to broaden their knowledge and skills to better serve students with learning difficulties. The goals and objectives for the program include the further development of educational leaders in supporting students, parents, and colleagues in the field. Graduate students complete the Certificate of Graduate Study in Learning Disabilities with knowledge and skills in the current research on learning disabilities and methods so as to more effectively serve individuals with learning disabilities; and, in this program they are trained to be educational collaborators and leaders, to be change agents in their classrooms, and school districts.

Courses in this program may be used to satisfy some of the course requirements in Rowan University's Master of Arts in Learning Disabilities program which can lead to certification as a Learning Disabilities Teach Consultant†, or the Master of Arts in Special Education program. For more information, please visit www.rowanu.com/programs .

Program Requirements

Required Courses 15 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
LDTC 18503	Foundations of Learning Disabilities	3
LDTC 18504	Assessment of Learning Disabilities	3
LDTC 18520	Neurological Basis of Educational Disorders	3
READ 30530	Teaching Reading to Exceptional Children	3
SPED 08555	Educational Psychology of the Exceptional Learner	3

Total Required Credits for the Program 15 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Learning Disabilities is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Nanci Paparo
Herman D. James Hall
856.256.4500 ext. 3793
paparo@rowan.edu

Certificate of Graduate Study in Reading (COGS)

This program meets the increasing need for highly qualified practitioners in the area of reading. This program benefits classroom teachers K-12 who wish to increase their knowledge of literacy instruction. It offers a strong pedagogical and theoretical core from the reading discipline that will enable teachers to pursue an advanced degree. The Certificate of Graduate Study in Reading does not lead to any state certification. All courses carry over to the Master of Arts in Reading as appropriate.

Program Requirements

Required Courses 15 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
READ 30515	Teaching Reading & Writing Across the Grades	3
READ 30520	Content Area Literacy	3
READ 30530	Teaching Reading to Exceptional Children	3
READ 30535	Word Study: Phonics, Spelling & Vocabulary Instruction	3
READ 30545	Using Multicultural Literature in the K-12 Reading & Writing Classroom	3

Total Required Credits for the Program 15 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Reading is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Valarie Lee
Herman D. James Hall
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leev@rowan.edu

Certificate of Graduate Study in Reading/Writing Literacy (COGS)

This program meets the increasing need for highly qualified practitioners in the area of Reading/Writing Literacy as required by the Common Core English and Language Arts Standards. This program benefits classroom teachers K-12 who wish to increase their knowledge of literacy instruction. Courses in this program also enable teachers to apply for National Board Certification by building content area knowledge in reading and writing. The Certificate of Graduate Study in Reading/Writing Literacy does not lead to any state certification. All courses carry over to either the Master of Arts in Writing or the Master of Arts in Reading as appropriate.

Program Requirements

Required Courses 15 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
Students can select any 5 courses from the courses listed below:		
MAWR 01549	Issues in Composition	3
MAWR 01556	Assessment of Writing	3
READ 30515	Teaching Reading & Writing Across the Grades	3

READ 30520	Content Area Literacy	3
READ 30535	Word Study: Phonics, Spelling & Vocabulary Instruction	3
READ 30552	Selected Topics in Reading	3
MAWR 01618	Special Topics in Writing	3
Total Required Credits for the Program		15 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Reading/Writing Literacy is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Valarie Lee
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Certificate of Graduate Study in Special Education (COGS)

The Certificate of Graduate Study (COGS) in Special Education is designed for general education teachers who wish to increase their knowledge of special education, as well as special education teachers who wish to pursue further coursework at the graduate level. The goal of this certificate is to provide teachers with an overview of the salient issues in special education, as well as opportunities to focus on the essential aspects of evidence-based practices.

The six course sequence and corresponding field experiences are aligned with the professional standards set forth by the Council for Exceptional Children, as well as the New Jersey Department of Education†; collectively they ensure program graduates acquire the essential knowledge, skills, and dispositions needed to best serve students with disabilities.

This Certificate of Graduate Study is offered in an online format and can be used to satisfy the Content Certificate of Graduate Study requirement in the Master of Education in Teacher Leadership program. Teachers who successfully complete the Certificate of Graduate Study coursework can also opt to continue pursuit of the Teacher of Students with Disabilities Graduate Endorsement Program (see a department representative for additional details).

Program Requirements

Required Courses 15 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
READ 30530	Teaching Reading to Exceptional Children	3
SELN 10581	Implementing Positive Behavior Strategies	3
SELN 10585	Educational Assessment in Special Education	3
SPED 08515	Curriculum, Instruction, Transition in Special Education	3
SPED 08555	Education and Psychology of Exceptional Learners	3
Total Required Credits for the Program		15 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None.

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Special Education is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Academic Advisor
S. Jay Kuder, Ed.D.
Herman D. James Hall
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kuder@rowan.edu

Certificate of Graduate Study in Teaching and Learning (COGS)

The Certificate of Graduate Study in Teaching and Learning is designed for teachers who desire to develop and hone their leadership skills and who wish to remain in the classroom. The program approaches leadership from the perspectives of exemplary teaching, continuous learning for all, a need to balance change with stability and the importance of peaceful existence in a diverse community of learners. This Certificate of Graduate Study also serves as the Core of the Master of Education in Teacher Leadership and is offered in an online format.

The following Five Core Propositions of the National Board for Professional Teaching Standards (NBPTS) and three additional Principles identified by College of Education faculty provide the focus for the master's program:

NBPTS Propositions

1. Teachers are committed to students and their learning;
2. Teachers know the subjects they teach and how to teach those subjects to students;
3. Teachers are responsible for managing and monitoring student learning; and,
4. Teachers think systematically about their practice and learn from their experience.
5. Teachers are members of learning communities.

Rowan Program Principles

1. Teachers account for the needs of culturally, linguistically, and cognitively diverse learners;
2. Teachers are change agents, teacher leaders, and partners with colleagues; and,
3. Teachers use technology to facilitate student learning and their own professional development.

Program Requirements

Required Courses 18 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CURR 29580	Fundamentals of Curriculum Development	3
EDUC 01624	Educational Change	3
ELEM 02511	Learning Community Classrooms	3
ELEM 02550	Analysis of Classroom Teacher Behavior	3
LDTC 18510	Applied Theories of Learning	3
READ 30566	Researching Classroom Practice	3

If students hold National Board certification, two courses in the Core/Teaching and Learning Certificate of Graduate Study will be waived.

Total Required Credits for the Program 18 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Teaching and Learning is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator
Maria Sudeck
Herman D. James Hall
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Certifications, Endorsements & Related Post-Baccalaureate Programs (Non-Degree)

Learning Disabilities Teacher-Consultant Certification (LDTC)

Learning Disabilities Teacher-Consultants work in collaboration with other members of a child study team to determine eligibility for special services. LDT-Cs also consult with parents, teachers, and other school personnel to provide research-based instructional strategies to assist pupils struggling academically.

Graduates of the Master of Arts in Learning Disabilities Program at Rowan University earn the Learning Disabilities Teacher-Consultants certificate (an Educational Services credential) concomitantly with the Master of Arts in Learning Disabilities degree. **However, applicants who have earned a Master's degree in learning disabilities from another institution or a Master's degree in a related field (e.g., special education or reading) may apply to the Learning Disabilities Teacher-Consultant (LDT-C) certificate-only program.**

This program meets all State of New Jersey requirements for the LDT-C certificate†. It also received national recognition for accreditation through CEC for educational diagnosticians.

Program Requirements

Required Courses 33 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
LDTC 18503	Foundations of Learning Disabilities	3
LDTC 18504	Assessment of Learning Disabilities	3
LDTC 18505	Correction of Learning Disabilities	3
LDTC 18510	Applied Theories of Learning	3
LDTC 18516	Applied Tests and Measurements	3
LDTC 18520	Neurological Bases of Educational Disorders	3
LDTC 18525	Advanced Assessment Techniques	3
LDTC 18650*	Clinical & Field Experiences in Learning Disabilities	6
READ 30530	Teaching Reading to Exceptional Children	3
SPED 08555	Education & Psychology of Exceptional Learners	3

** Matriculated students only and only with permission of program advisor.*

Total Required Credits for the Program 33 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Learning Disabilities Teacher/Consultant Certification (LDTC) is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Nanci Paparo
Herman D. James Hall
856.256.4500 ext. 3793
paparo@rowan.edu

Supervisor Certification

This program meets the requirements specified by the state of New Jersey† and is designed to serve the person who has already earned a Master's degree in some field and who wants to qualify as a supervisor in the public schools: one who is charged with authority and responsibility for the continuing direction and guidance of the work of instructional personnel.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CURR 29580	Fundamentals of Curriculum Development	3
CURR 29590	Curriculum Evaluation	3
EDSU 28522	Instructional Leadership & Supervision	3
EDSU 28546	Educational Organizations & Leadership	3
Total Required Credits for the Program		12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Supervisor Certification is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Miguel Greenup
Herman D. James Hall
856.256.4500 ext. 3637
greenup@rowan.edu

Graduate Endorsement: Bilingual/Bicultural Education

This program responds to the need for highly qualified teachers prepared to teach content in both the student's native language and in English to the growing numbers of English language learners in the schools. The program, approved by the New Jersey State Department of Education†, includes 12 credits hours of formal instruction in the following topics: linguistics, language acquisition, development of literacy skills for the second language learner, methods of teaching content in bilingual education, and theory and practice of bilingual education. Specific objectives emphasize the application of theory to practice, development of long-range and short-range plans that integrate language and content, design of appropriate authentic assessment instruments, and use of technology to research content and instructional techniques.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
BLED 40510	Issues of Language & Cultural Diversity in ESL/Bilingual Programs	3
BLED 40512	Linguistics & Second Language Acquisition for Teaching Languages	3
BLED 40521	Teaching Bilingual Education: Process & Practice	3
BLED 40522	Integrating Language & Content in the ESL/Bilingual Education Classroom	3
Total Required Credits for the Program		12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The GE in Bilingual/Bicultural Education is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Sora Suh
Herman D. James Hall
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suh@rowan.edu

Graduate Endorsement: Teacher of Students with Disabilities

This program is designed for individuals who possess a standard instructional certificate, or possess/are eligible for CEAS and wish to obtain Teacher of Students with Disabilities certification in New Jersey†. The purpose of the program is to provide advanced studies focusing on educational, psychological and sociological needs of children and youth with disabilities. Each course in the program builds on the earlier knowledge and skills gained in the candidates initial certification programs.

The coursework and related field experiences are designed to foster an understanding of students with special learning needs, combined with pedagogical skills to accommodate these needs and provide appropriate curriculum modifications when necessary. Upon completing the program, candidates will be recommended for certification†.

Candidates who want to pursue a Master's degree may transfer 9 credit hours to the Master of Arts in Special Education program and must apply through Rowan Global Student Services.

Students who have completed the Certificate of Graduate Study in Special Education and want to pursue the certification of Teacher of Students with Disabilities need to reapply for this endorsement program.

Program Requirements

Required Courses 21 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
SELN 10581	Implementing Positive Behavior Strategies	3
SELN 10585	Educational Assessment in Special Education	3
SELN 10592*	Clinical Seminar in Special Education	2
SPED 08515	Curriculum, Instruction, Transition in Special Education	3
SPED 08520*	Clinical Experiences in Special Education	4
READ 30530	Teaching Reading to Exceptional Children	3
SPED 08555	Education and Psychology of Exceptional Learners	3

** Taken after success completion of all other Graduate Endorsement courses.*

Note: Students must complete an application on TK20 for SPED 08520.

Total Required Credits for the Program 21 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Successful completion of comprehensive exam

Minimum Required Grades and Cumulative GPA

The GE in Teacher of Student with Disabilities is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Nanci Paparo
Herman D. James Hall
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Post-baccalaureate Certification: Teacher of Reading

The Post Baccalaureate Program in Teacher of Reading is an endorsement program that leads to certification as a Teacher of Reading†. It is available to students who have already been admitted to teacher certification programs or who already hold New Jersey teaching certificates. Reading certification is granted only when a student has fulfilled all requirements for a major teaching certificate. To matriculate, students must complete an introductory reading course and satisfy the requirements listed below.

The program requires students to successfully complete 30 semester hours of coursework in reading and reading-related areas to obtain Teacher of Reading Certification. Students may fulfill the requirement for the New Jersey Teacher of Reading Endorsement† with undergraduate coursework, graduate coursework, or a combination of the two.

Program Requirements

Reading Theory and Pedagogy 12 s.h.

(s.h.: semester hours/credit hours)

Choose from the following:

Course #	Course Title	S.H.
READ 30280	Teaching Literacy	3
READ 30319	Teaching Reading & Writing in the Content Area (for Subject Matter Education)	3
READ 30320	Language Development & Emergent Literacy (for Early Childhood Education)	4
READ 30350	Using Children's Literature in the Reading/Writing Classroom	3
READ 30351	Differentiated Literacy Instruction	2
and ELEM 02338	Practicum in Mathematics & Literacy	1
READ 30347	Phonics & Spelling	3
READ 30515	Teaching Reading and Writing Across the Grades	3
READ 30520	Content Area Literacy	3
READ 30530	Teaching Reading to the Exceptional Child	3
READ 30535	Word Study: Phonics, Spelling & Vocabulary Instruction	3
READ 30545	Using Multicultural Literature in the K-12 Reading & Writing Classroom	3

Application through Tutoring 6 s.h.

Choose from the following:

Course #	Course Title	S.H.
READ 30421	School Reading Problems	3
READ 30451	Supervised Clinical Practice	3
READ 30550	Diagnosis of Remedial Reading Problems	3
READ 30560	Correction of Remedial Reading Problems	3
READ 30570	Clinical Experiences in Reading	6

Core/Supporting Courses 12 s.h.

Choose from the following:

Course #	Course Title	S.H.
EDUC 01272	Teaching in Learning Communities II	2
ELEM 02539	Contemporary Curriculum Processes/Elementary Language Arts	3
FNDS 21230	Characteristics of Knowledge Acquisition	3
PSY 22512	Educational Psychology	3
PSY 22586	Psychology of Motivation & Learning	3
READ 30120	Literacies in Today's World	3
SECD 03350	Teaching Students of Linguistic & Cultural Diversity	1
SPED 08130	Human Exceptionality	3
WA 01401	Writer's Mind	3
WA 01358	Writing and Craft for Elementary Students	1

Total Required Credits for the Program 30 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Post-Baccalaureate Certification in Teacher of Reading is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Susan Browne
Herman D. James Hall
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brownes@rowan.edu

Post-baccalaureate Certification: Teacher of Students with Disabilities

This program leads to the Endorsement in Teacher of Students with Disabilities and is available to students who have completed teacher certification programs and/or who already possess initial New Jersey teaching certification†. The program requires students to successfully complete 27 semester hours of coursework in Special Education and Special Education-related areas to obtain the Teacher of Students with Disabilities Endorsement from the NJ State DOE†. Please note that most classes require a 20-hour field placement component in an approved setting; several of the courses in the program are bundled and must be taken together. The Teacher of Students with Disabilities Endorsement will be granted by the NJ State DOE† only when a student has fulfilled all requirements for the program, including taking and passing the Praxis II exam for Special Education (5354) and the successful completion of Clinical Practice/Clinical Seminar.

Program Requirements

Required Courses 27 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
READ 30351	Differentiated Literacy Instruction	2
SPED 08130	Human Exceptionality	3
SPED 08307	Assessment of Students with Exceptional Learning Needs (ELNs)	3
SPED 08308	Assistive Technology & Transition Planning for Students with ELNs	3
SPED 08316	Differentiated Instruction in the Inclusive Classroom	2
SPED 08325	Practicum in Special Education I	1
SPED 08326	Practicum in Special Education II	1
SPED 08360	Positive Behavioral Support Systems	3
SPED 08415	Specialized Instruction for ELNs	3
SPED 08445*	Clinical Seminar in Special Education	2
SPED 08450*	Clinical Practice in Special Education	4

** Taken after successful completion of all other Post-Baccalaureate: Teacher of Students with Disabilities courses.*

Note: Students who are currently matriculated in the Bachelor of Arts. in Education Concentration: Early Childhood Education (P-3) program should consult with their Academic Advisor regarding specific requirements.

Total Required Credits for the Program 27 s.h.

Foundation Courses

Successful completion of READ 30280 Teaching Literacy, or equivalent course as determined by department.

Graduation/Exit, Benchmark, and/or Thesis Requirements

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks' timing and assessments will be shared with the student throughout the program by the Academic Advisor.*

Benchmark I:

- *Timing*: Occurs after the completion of 22 prescribed credits
- *Requirements*: Candidates must achieve passing scores on the Praxis I, Praxis II: Subject, and Praxis II: Special Education.
- *Options*: If the student does not successfully pass the benchmark, then the student is able to re-take Assessment Exam or any incomplete coursework, until such time as benchmark is passed or student is made inactive.

Minimum Required Grades and Cumulative GPA

The Post-Baccalaureate in Teacher of Students with Disabilities is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Coordinator
Nanci Paparo
Herman D. James Hall
856.256.4500 ext. 3793
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Academic Advisor (Blended Track)
Arielle Rocco
Herman D. James Hall
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Post-baccalaureate Certification: School Nursing

The Post Baccalaureate School Nursing Certification Program is designed to build upon the baccalaureate prepared registered nurse's varied educational and experiential foundation of previously acquired knowledge, skills, and attitudes for the enhancement of the nurse's professional performance in the school setting. A dual preparation in health and education best qualifies school nurses for participation in the intraprofessional and interdisciplinary aspects of school health.

The Post-Baccalaureate School Nursing Certification Program reflects a curriculum that requires students to matriculate into the program, have a baccalaureate degree from an accredited college or university, a current New Jersey professional registered nurse (RN) license issued by the New Jersey Board of Nursing and current certificates in cardiopulmonary resuscitation (CPR) and automated external defibrillators (AED).

The curriculum permits students to become eligible for the New Jersey Standard Educational Services Certificate with a School Nurse Endorsement†. It is a non-degree post baccalaureate certification program designed to prepare registered nurses with the course requirements to meet the mandates of the New Jersey Administrative Code (NJAC 6A: 9-13.3) and with the NASN Standards of Professional School Nursing Practice and Standards of Care.

Program Requirements

Required Courses 18 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
SNUR 92407	School & Family Issues for Children with Ongoing Health Care Needs	3
SNUR 92430	Methods & Materials in Health Teaching for School Nurses	3
SNUR 92444	Practicum in School Nursing	3
SNUR 92445	Internship in Health Teaching for School Nursing	3
SNUR 92466	School Health Services	3
SPED 08130	Human Exceptionality	3

Total Required Credits for the Program 18 s.h.

Foundation Courses

Eligible applicants must have successfully completed the following undergraduate foundation courses at an accredited institution. During the admissions process, the School Nursing Academic Advisor will determine foundation course equivalencies and how any unfinished undergraduate foundation courses can be scheduled concurrently with post-baccalaureate enrollment. If applicable, official notification of any unfinished foundation courses will be included in the applicant's official admission decision letter from Rowan University.

- FC-1. NURS 03401 Community Health Nursing (3.0 s.h.)
- FC-2. NURS 03303 Health Assessment (3.0 s.h.)

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Post-Baccalaureate in School Nursing Certification is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator
Concetta Venuto
venuto@rowan.edu

Undergraduate Endorsement: Teacher of Driver Education

This program is designed for those who possess a Standard New Jersey Instructional Certificate or CEAS (Teacher of Health and Physical Education) or are currently enrolled in a health/physical education teacher prep/certification program in the State of New Jersey, and who wish to earn New Jersey Driver Education Teacher Endorsement†. The content includes learning to teach motor vehicle operation and driving environments, and the student development of teaching techniques emphasizing safety, risk perception, and decision-making processes applied in a vehicle. Learning how to instruct others in performing behind-the-wheel driving will be scheduled outside of class time.

Those who matriculate in and successfully complete the Driver Education Course and Endorsement Program will then be recommended by Rowan University to the State of New Jersey for certification as a Teacher of Driver Education†.

Program Requirements

Required Courses 3 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
HES 00100*	Teaching Concepts of Driver Education	3

** This course is offered in an accelerated format. In addition to face-to-face meetings on Rowan University's main campus and behind-the-wheel sessions, some coursework will be completed online.*

Total Required Credits for the Program 3 s.h.

Foundation Courses

Successful completion of an undergraduate-level course in Safety and First Aid, or CPR, First Aid, and AED Certification is highly recommended.

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Program Coordinator/Academic Advisor Contact Information

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Henry M. Rowan College of Engineering

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Mission

The mission of the Henry M. Rowan College of Engineering is to provide programs that are effectively responsive to regional aspirations and that address the needs and the changing characteristics of the leading-edge engineers of the future. The College aims to educate students to apply technology for the betterment of society and to serve as global change agents for the future. Rowan University also recognizes that the Henry M. Rowan College of Engineering will aid in the economic and cultural development of southern New Jersey, while generating opportunities for its diverse graduates in local, national, and international industries.

The College consists of programs in the areas of biomedical engineering, chemical engineering, civil engineering, environmental engineering, electrical & computer engineering, engnineering entrepreneurship, engineering management, materials science, and mechanical engineering. At the core of the program are faculty who collaborate as a multidisciplinary team. The engineering program is designed to provide students with the tools needed to contribute to the technological and economic development of our global society.

The graduate program is tailored to provide students with opportunities to enhance the breadth of their education, or to specialize in a technical area. Industry partnerships provide an additional dimension to the graduate program through joint ventures in Engineering Clinic, research and development projects. The result is a new breed of engineer: professionals schooled in practical applications and theory, and agile engineers ready to improve existing processes and products, and create new systems.

Departments

The Henry M. Rowan College of Engineering houses the following academic departments: Biomedical Engineering, Chemical Engineering, Civil & Environmental Engineering, Electrical & Computer Engineering, Experiential Engineering Education, and Mechanical Engineering. (Not all departments offer programs through the Division of Global Learning & Partnerships.)

Programs Offered

All programs offered are listed below in order of degree/program type and then in alphabetical order by program name. Details about each program are then listed within the catalog in the same order. For the most up-to-date information regarding mode of delivery options for your program of interest, please visit www.rowanu.com/programs .

DOCTORAL DEGREES

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Doctor of Philosophy in Engineering	Face-to-face/Glassboro	PHD-ENGR/D901	Both	
Concentration Name		**Code**		
Biomedical Engineering		P919		72
Chemical Engineering		P921		72
Civil & Environmental Engineering		P920		72

Electrical & Computer Engineering	P912	72
Materials Science and Engineering	P923	72
Mechanical Engineering	P922	72

MASTER'S DEGREES

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Master of Engineering Management	100% online and accelerated	MEM-ENMAN/G913	Part-time	30
Master of Science in Chemical Engineering	Face-to-face/Glassboro	MS- CHEMENGR/G907	Both	30
Master of Science in Civil Engineering	Face-to-face/Glassboro	MS-CIVENGR/G905	Both	30
Master of Science in Electrical & Computer Engineering	Face-to-face/Glassboro	MS-ECENGR/G903	Both	30
Master of Science in Engineering Management	Face-to-face/Glassboro	MS-ENMAN/G902	Part-time	30
Master of Science in Engineering	Face-to-face/Glassboro	MS-ENGR/G901	Both	30
Master of Science in Engineering: Biomedical Concentration	Face-to-face/Glassboro	MS-ENGR/G901	Both	30
Master of Science in Mechanical Engineering	Face-to-face/Glassboro	MS- MECHENGR/G904	Both	30

CERTIFICATES OF GRADUATE STUDY (NON-DEGREE)

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Certificate of Graduate Study in Combat Systems Engineering	Face-to-face/Glassboro	COG-COMSYEN/G921	Both	12
Certificate of Graduate Study in Engineering for Educators	Face-to-face/Glassboro, with accelerated/online course options	COG-ENGREDU/G140	Part-time	9

UNDERGRADUATE DEGREE COMPLETION

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Bachelor of Arts in Construction Management	100% online	BA-CMGMT/0914	Part-time	

Admissions

For the most up-to-date information regarding admission requirements, entry points, and application deadlines, please visit www.rowanu.com/programs . Click on your program of interest to be connected to program and admission details.

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Doctor of Philosophy in Engineering (Ph.D.)

Doctor of Philosophy in Engineering (Ph.D.)

Rowan's Doctor of Philosophy in Engineering is a terminal degree program that is specifically designed to meet the changing needs of researchers, scholars and engineers in academia, industry, and the government. The primary goal of this program is, therefore, to prepare students for careers in research and/or academics by providing an environment that closely reflects the realities and expectations encountered by today's academicians, professional scientists and research engineers. The program offers a highly flexible inter- and multi-disciplinary curricular structure, allowing concentration in any (or multiple) of the traditional or emerging engineering disciplines. The primary strength of the program is involving students in activities that they are most likely to encounter in a real-world academic or industrial settings.

The following concentrations are offered:

- Biomedical Engineering/P919
- Chemical Engineering/P921
- Civil & Environmental Engineering/P920
- Electrical & Computer Engineering/P912
- Materials Science and Engineering/P923
- Mechanical Engineering/P922

Program Requirements

- The Rowan University Doctor of Philosophy in Engineering program requires the completion of coursework, teaching assistantships, research requirements, dissertation, and dissertation defense.
- For a student who possesses a bachelor's degree, a minimum of 72 semester hours of graduate-level work will be required.
- For a student who possesses a a master's degree in a related field, a minimum of 42 semester hours (credits) of graduate-level work beyond your master's degree will be required. Up to 30 of the credits earned in pursuit of your master's degree may be transferable.
- For specific curriculum requirements for each concentration, refer to their specific webpage and/or specific Graduate Program Coordinator.

Required Courses

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
ENGR 01599	Master's Research	No more than 9
ENGR 01600	ToughTalk - Graduate Seminar	0
ENGR 01601	Effective Teaching in Academic & Corporate Environments	3
ENGR 01602	Strategic Technical Writing & Winning Grant Proposals	2
ENGR 01699	Ph.D. Dissertation Research	At least 12
MATH 015XX/STAT 025XX	One approved graduate-level Math class (see list of Approved Graduate Math Courses below)	3

Approved Graduate Elective Courses

(s.h.: semester hours/credit hours)

General Engineering

Course #	Course Title	S. H.
ENGR 01510	Finite Element Analysis	3
ENGR 01511	Engineering Optimization	3
ENGR 01512	Principles of Nanotechnology	3

Electrical & Computer Engineering

Course #	Course Title	S. H.
ECE 09504	Special Topics in Electrical & Comp Engineering§†	3
ECE 09509	Virtual Reality Systems	3
ECE 09521	Fundamentals in Systems Engineering	3
ECE 09523	Advanced Radar Systems	3
ECE 09524	Advanced War Gaming and C4ISR	3
ECE 09525	Advanced Command and Control	3
ECE 09526	Advanced Weapon Systems	3
ECE 09551	Digital Signal Processing	3
ECE 09552	Digital Image Processing	3
ECE 09553	Digital Speech Processing	3
ECE 09554	Theory and Engineering Application of Wavelets	3
ECE 09555	Advanced Topics in Pattern Recognition	3
ECE 09556	Embedded System Design	3
ECE 09560	Artificial Neural Networks	3
ECE 09566	Advanced Topics in Systems, Devices & Alg. in Bioinformatics	3
ECE 09568	Discrete Event Systems	3
ECE 09569	System on Chip Verification	3
ECE 09571	Instrumentation	3
ECE 09572	Advanced Smart Grid	3
ECE 09573	Advanced Smart Sensors	3
ECE 09582	Memristors and Nanoelectronic VLSI	3
ECE 09585	Advanced Engineering Cyber Security	3
ECE 09586	Advanced Portable Platform Development	3
ECE 09590	Advanced Emerging Topics in Computer Engineering	3
ECE 09593	Advanced Emerging Topics in Biomedical Systems	3
ECE 09595	Advanced Emerging Topics in Computational Intelligence, Machine Learning & Data Mining	3
ECE 09651	Detection & Estimation Theory	3

ECE 09504 series constitute the Emerging Topics in Electrical and Computer Engineering sequence. These classes can be taken multiple times when approved by the advisor. Multiple sections of this course are offered during each semester with different content on emerging topics.

These four courses are also part of the Certificate of Graduate Studies in Combat Systems Engineering (CSE), as well as the MS in Engineering Management with concentration in Combat Systems Engineering. The CSE programs are designed and delivered in cooperation with Lockheed Martin Corporation.

Civil & Environmental Engineering

Course #	Course Title	S. H.
CEE 08504	Engineering Estimating	3
CEE 08507	Prestressed Concrete	3
CEE 08512	Advanced Environmental Treatment Process	3
CEE 08522	Site Remediation Engineering	3
CEE 08531	Solid/Hazardous Water Management	3
CEE 08532	Pollutant Fate & Transport	3
CEE 08533	Integrated Solid Waste Management	3
CEE 08543	Advanced Water Resources	3
CEE 08544	Hydraulic Design	3
CEE 08545	Environmental Fluid Mechanics	3
CEE 08552	Foundation Engineering	3
CEE 08553	Earth Retaining Systems	3
CEE 08562	Advanced Transportation	3
CEE 08564	Design Elements Transport Engineering	3
CEE 08573	Advanced Structural Analysis	3
CEE 08584	Prestressed Concrete	3

CEE 08585	Advanced Reinforced Concrete	3
CEE 08586	Bridge Engineering	3

Chemical Engineering

Course #	Course Title	S. H.
CHE 06506	Process Heat Transfer	3
CHE 06508	Membrane Process Tech	3
CHE 06510	Biochemical Engineering	3
CHE 06512	Safety Process Industry	3
CHE 06514	Trans Phenomena Engineering	3
CHE 06515	Advanced Reactor Design	3
CHE 06516	Advanced Separation Process Technology	3
CHE 06518	Polymer Engineering	3
CHE 06520	Green Engineering Design in Chemical Ind.	3
CHE 06528	Fluid Flow Application Process/Manufacturing	3
CHE 06568	Electrochemical Engineering	3
CHE 06570	Air Pollution Control	3
CHE 06571	Biomedical Control Systems	3
CHE 06572	Biomedical Process Eng	3
CHE 06573	Biomaterials Eng	3
CHE 06574	Advances Particle Tech	3
CHE 06575	Biopharmaceuticals & Industrial Mixing	3
CHE 06576	Bioseparation Processes I	3
CHE 06577	Advanced Engineering Process Analysis & Experimental Design	3
CHE 06578	Tissue Engineering	3
CHE 06579	Industrial Process Pathways	3
CHE 06580	Optimization of Engineering Projects	3
CHE 06581	Advanced Process Analysis	3
CHE 06584	Controlled Release Theory	3
CHE 06585	Engineering Quality Control	3
CHE 06586	Advanced Engineering Thermodynamics	3

Mechanical Engineering

Course #	Course Title	S. H.
ME 10501	Computer Integrated Manufacturing & Automation	3
ME 10506	Computational Material Science	3
ME 10511	Combustion	3
ME 10513	Principles in Advanced Heat & Mass Transfer	3
ME 10514	Energy Conversion Systems	3
ME 10522	Computational Fluid Dynamics	3
ME 10541	Advanced Mechanism Design	3
ME 10542	Advanced Mechatronics	3
ME 10543	Advanced Design for X	3
ME 10544	Automotive Engineering	3
ME 10550	Advanced Solid Mechanics	3
ME 10551	Mechanics Continuous Media	3
ME 10552	Structural Acoustics	3
ME 10553	Analytical Dynamics	3
ME 10554	Elastic Stability of Structures	3
ME 10570	Principles in Biomechanics	3
ME 10571	Principles of Biotransport	3
ME 10572	Principles of Biomaterials	3
ME 10576	Principles in Orthopaedic Biomechanics	3

Approved Graduate Math Courses**

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
MATH 01505	Probability & Mathematical Statistics	3
MATH 01512	Complex Analysis I	3
MATH 01515	Engineering Applications of Analysis	3
MATH 01521	Nonlinear Differential Equations	3
MATH 03511	Operations Research I	3
MATH 03512	Operations Research II	3
STAT 02513	Applied Stochastic Processes	3
STAT 02514	Decision Analysis	3

STAT 02525	Design & Analysis of Experiments	3

*** A student may request to take another Math or Math intensive class (offered at Rowan or elsewhere) if it is more suitable for his/her research; such a course may also be included as an "approved graduate level Math" class, subject to his/her advisor's and home department chair's approval.*

Total Required Credits for the Program 72 s.h.*

**Minimum of 72 credits of graduate-level work beyond a bachelor's degree, or 42 credits of graduate-level work beyond a master's degree in a related field are required. Of these 72 total credits, 42 must come from the following:*

1. At least one approved (see below) graduate level Math class. Certain math intensive engineering courses may be used to satisfy this requirement (3 credits).

2. Effective Teaching in Academic & Corporate Environments (3 credits).

3. Strategic Technical Writing & Winning Grant Proposals (2 credits).

At least 18 course credits (not including Effective Teaching and Strategic Technical Writing courses) must be obtained from graduate only classes (600-level classes, or 500-level classes with no corresponding 400-level equivalent offered at the same time).

A minimum of 21 credits must come from "Research." Up to 9 Research credits may come from ENGR01.599. Students who complete their Master's degree elsewhere will be considered to have taken 9 credits of ENGR01.599. All remaining Research credits must come from ENGR01.699, the last 3 of which must be taken during the semester in which the Doctor of Philosophy in Engineering Candidate plans to taken during his/her Doctor of Philosophy in Engineering Dissertation Defense.

Graduation/Exit/Thesis Requirements

a. Complete minimum of 72 credits of graduate level work beyond bachelor's degree OR minimum of 42 credits of graduate level work beyond master's degree.

b. Completion of all of University's standard Ethical & Responsible Conduct of Research training (including human/animal subject training when applicable)

c. Regular attendance and participation in (0-credit) graduate seminars

d. Successful completion of a Ph.D. Qualifier examination^

e. Successful completion of a Ph.D. Candidacy (proposal) examination^

f. Successful completion of Career Preparation & Readiness Experience that consists of teaching, grant writing, publishing and service^

g. Successful completion of Ph.D. dissertation defense^

h. Successful completion of Ph.D. dissertation^

^ The specific details, nature and scope of these examinations (e.g., format of the exam) and requirements (e.g. number of journal publications, conference publications, patents, number of teaching assignments) will be determined by the student's Doctor of Philosophy in Engineering committee and/or department policies for student's home department as aligned with the Henry M. Rowan College of Engineering policies.

Minimum Required Grades and Cumulative GPA

The Doctor of Philosophy in Engineering is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Concentration Coordinator Contact Information

Biomedical Engineering
Mark Byrne
Engineering Hall
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Chemical Engineering
Joseph Stanzione
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Civil and Environmental Engineering
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Electrical and Computer Engineering
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Mechanical Engineering
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Master's Degrees

Master of Engineering Management (M.E.M.)

The Master of Engineering Management program effectively prepares engineers for management level positions. Students in this program receive knowledge of organizational procedures such as budgeting, strategic decision making, and supervising. The combination of courses from The Henry M. Rowan College of Engineering and AACSB-accredited Rohrer College of Business equips students with the ideal balance of advanced technical knowledge and managerial skills required to advance as a manager. The Rowan University Master of Engineering Management (MEM) Degree is a part-time program offered in an accelerated online format. Two courses are scheduled per semester for five consecutive semesters resulting in possible degree completion in less than 24 months.

Program Requirements

Required Courses 30 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
EM 01501	Engineering Economics	3
EM 01511	Strategic Risk Management	3
EM 01512	Quality in Engineering Management	3
EM 01513	Engineering Decisions	3
EM 01541	Engineering Law and Ethics	3
ENGR 01501	Special Topics in Engineering: Facilities Management	3
ENGR 01501	Special Topics in Engineering: Systems	3
MGT 06666	Managing Engineering Teams	3
MGT 06677	Management Skills for Engineers	3
MIS 02526	Project Management for Engineers	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

The following undergraduate courses must be successfully completed at an accredited institution: Chemistry I, Physics I, Calculus I, and Statistics I.

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Master of Engineering Management is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Stephen J. Krone
Enterprise Center
856-341-5924
krone@rowan.edu

Master of Science in Engineering Overview (M.S.)

The Master of Science in Engineering program at Rowan University effectively prepares individuals to respond to the changing needs of engineers today. This program provides students with the necessary knowledge, skill set, and training to effectively contribute to the engineering workforce. Students have access to higher level courses leading to a graduate degree and are involved in professional development opportunities which increase the breadth of understanding and application of engineering principles.

Students can choose between a thesis track and a coursework track. Students may also work on a project, which may be counted toward a coursework track degree. Most full-time students work on funded research projects, leading to a thesis. Most part-time students select the coursework track. In order to be eligible for a Research Assistantship, students must select the thesis track.

Tracks

The program includes two tracks. Each haas different course and graduation exit requirements which are outlined in the chart.

- Thesis Track: The thesis option requires the completion of 30 semester hours, 6-9 of which are in thesis research/engineering project.
- Non-Thesis Track: The non-thesis option requires the completion of 30 semester hours of coursework.

Programs

Students in the M.S. program may select from the following concentrations:

- Chemical Engineering
- Civil Engineering
- Electrical & Computer Engineering
- Engineering Management
- Mechanical Engineering

Note: Students may also choose to pursue a tailored Master of Science in Engineering program under the direction of a faculty advisor.

Master of Science in Chemical Engineering (M.S.)

The Chemical Engineering program emphasizes project management skills and industrially relevant research that prepares students and working engineers for successful careers in high-tech fields. This program also includes the following focus areas: Bioengineering; Signals, Systems and Computational Intelligence; and Sustainability.

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
MATH 01515	Engineering Applications of Analysis (or equivalent)	3
TBD	Engineering Application of Computers (or equivalent)	3
TBD	Approved Business course (or equivalent)	3

Required Specialized Courses 12–15 s.h.

Choose from the graduate level electives offered by the Chemical Engineering program, with approval of the Academic Advisor. The eligible courses include, but are not limited to the following.:

Course #	Course Title	S. H.
CHE 06502	Special Topics in Chemical Engineering	3
CHE 06506	Process Heat Transfer	3
CHE 06508	Membrane Process Technology	3
CHE 06510	Biochemical Engineering	3
CHE 06512	Safety in the Process Industries	3
CHE 06514	Transport Phenomena for Engineers	3
CHE 06515	Advanced Reactor Design	3
CHE 06516	Advanced Separation Process Technology	3
CHE 06518	Polymer Engineering	3
CHE 06520	Green Engineering Design in the Chemical Industry	3
CHE 06528	Fluid Flow Applications in Processing and Manufacturing	3
CHE 06568	Electrochemical Engineering	3
CHE 06570	Air Pollution Control	3

CHE 06572	Biomedical Process Engineering	3
CHE 06574	Advances in Particle Technology	3
CHE 06576	Bioseparation Processes	3
CHE 06577	Advanced Engineering Process Analysis & Experimental Design	3
CHE 06579	Industrial Process Pathways	3
CHE 06580	Optimization of Engineering Projects	3
CHE 06581	Advanced Process Analysis	3
CHE 06582	Food Engineering Systems	3

Required Thesis/Project Courses 6–9 s.h.

Course #	Course Title	S. H.
ENGR 01599	Masters Research	6-9

Total Required Credits for the Program 30 s.h.

Foundation Courses None

Graduation/Exit, Benchmark, and Thesis Requirements Thesis Research/Engineering Project. (Students will register for Masters Research (see above) credit hours totaling between 6-9 s.h. Please discuss with your Academic Advisor.)

Minimum Required Grades and Cumulative GPA

The Master of Science in Chemical Engineering is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Joseph Stanzione
Rowan Hall
856.256.5356
stanzione@rowan.edu

Master of Science in Civil Engineering (M.S.)

The Civil Engineering program allows students to develop an interdisciplinary focus through their coursework and thesis topic. Graduate students work with faculty with expertise in transportation, geo-technology, structures, water resources, and the environment. Interdisciplinary areas include mechanics and materials, and sustainability. This program also includes the following focus areas: Mechanics and Materials; Signals, Systems and Computational Intelligence; Sustainability; and Transportation Engineering.

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
MATH 01515	Engineering Applications of Analysis (or equivalent)	3
TBD	Engineering Application of Computers (or equivalent)	3
TBD	Approved Business course (or equivalent)	3

Required Specialized Program Courses 12–15 s.h.

Choose from the following. The eligible courses include, but are not limited to the following. (Please note that not all courses are offered on a regular basis and should be chosen in consultation with the advisor.) Additional CEE085XX courses are listed in the course descriptions at the back of this catalog.:

Course #	Course Title	S. H.
CEE 08504	Engineering Estimating	3
CEE 08507	Prestressed Concrete	3
CEE 08512	Advanced Environmental Treatment Process	3
CEE 08522	Site Remediation Engineering	3
CEE 08531	Solid/Hazardous Water Management	3
CEE 08532	Pollutant Fate & Transport	3
CEE 08533	Integrated Solid Waste Management	3

CEE 08543	Advanced Water Resources	3
CEE 08544	Hydraulic Design	3
CEE 08545	Environmental Fluid Mechanics	3
CEE 08552	Foundation Engineering	3
CEE 08553	Earth Retaining Systems	3
CEE 08562	Advanced Transportation	3
CEE 08564	Design Elements Transport Engineering	3
CEE 08573	Advanced Structural Analysis	3
CEE 08584	Prestressed Concrete	3
CEE 08585	Advanced Reinforced Concrete	3
CEE 08586	Bridge Engineering	3

Required Thesis/Project Courses 6–9 s.h.

Course #	Course Title	S. H.
ENGR 01599	Masters Research	6-9

Total Required Credits for the Program 30 s.h.

Foundation Courses None

Graduation/Exit, Benchmark, and Thesis Requirements Thesis Research/Engineering Project. (Students will register for Masters Research (see above) credit hours totaling between 6-9 s.h. Please discuss with your Academic Advisor.)

Minimum Required Grades and Cumulative GPA

The Master of Science in Civil Engineering is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Yusuf Mehta
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mehta@rowan.edu

Master of Science in Electrical and Computer Engineering (M.S.)

The Electrical Engineering program gives students an opportunity to expand their skill sets in advanced topics of interest. Concentration areas include signal & image processing, computational intelligence and pattern recognition, power systems and renewable energy, discrete event systems, and virtual reality systems. This program also includes the following focus areas: Bioengineering; Signals, Systems and Computational Intelligence; and Sustainability.

Program Requirements

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
MATH 01515	Engineering Applications of Analysis (or equivalent)	3
TBD	Engineering Application of Computers (or equivalent)	3
TBD	Approved Business course (or equivalent)	3

Required Concentration Elective Courses 12–21 s.h.

Choose 21 s.h. (non-thesis track) or 12-15 s.h. (thesis track) of approved electives in consultation with the Academic Advisor. The eligible courses include, but are not limited to the following:

Course #	Course Title	S. H.
ECE 09504	Special Topics in Electrical and Computer Engineering^	3
ECE 09509	Virtual Reality Systems	3
ECE 09521	Fundamentals in Systems Engineering	3
ECE 09523	Advanced Radar Systems*	3
ECE 09524	Advanced War Gaming and C4ISR*	3
ECE 09525	Advanced Command and Control*	3

ECE 09526	Advanced Weapon Systems*	3
ECE 09551	Digital Signal Processing	3
ECE 09552	Digital Image Processing	3
ECE 09553	Digital Speech Processing	3
ECE 09554	Theory and Engineering Application of Wavelets	3
ECE 09555	Advanced Topics in Pattern Recognition / Machine Learning	3
ECE 09556	Advanced Embedded Software Design	3
ECE 09560	Artificial Neural Networks	3
ECE 09566	Advanced Topics in Systems, Devices, and Algorithms in Bioinformatics	3
ECE 09568	Discrete Event Systems	3
ECE 09569	System-on-Chip Verification	3
ECE 09571	Instrumentation	3
ECE 09572	Advanced Smart Grid	3
ECE 09573	Advanced Smart Sensors	3
ECE 09582	Memristors and Nanoelectronic VLSI	3
ECE 09585	Advanced Engineering Cyber Security	3
ECE 09586	Advanced Portable Platform Development	3
ECE 09590	Advanced Emerging Topics in Computer Engineering	3
ECE 09595	Advanced Emerging Topics in Comp. Intelligence & Machine Learning	3
ECE 09651	Estimation and Detection Theory	3
ECE 09655	Advanced Computational Intelligence and Machine Learning	3
ENGR 01510	Finite Element Analysis	3
ENGR 01511	Engineering Optimization	3

Required Thesis/Project Courses		6–9 s.h.
Course #	**Course Title**	**S. H.**
ENGR 01599	Masters Research	6-9

Total Required Credits for the Program	30 s.h.

Foundation Courses None

Graduation/Exit, Benchmark, and Thesis Requirements Thesis Research/Engineering Project. (Students will register for Masters Research (see above) credit hours totaling between 6-9 s.h. Please discuss with your Academic Advisor.)

Minimum Required Grades and Cumulative GPA

The Master of Science in Electrical and Computer Engineering is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Master of Science in Engineering Management (M.S.)

The Master of Science in Engineering Management program effectively prepares students for management positions in the engineering profession by providing them with the necessary skill sets, knowledge, and training to succeed as engineering managers. The courses that can be taken as part of this program include courses that are taught face-to-face and courses that are taught 100% online.

Students can learn about administrative procedures such as budgeting, strategic decision-making, and supervising. The combination of courses from the Henry M. Rowan College of Engineering and the AACSB-accredited Rohrer College of Business equips students with the ideal balance of advanced technical knowledge and managerial skills required to advance as a manager. Students can choose between a thesis track and a coursework track degree. Students may also work on a project, which may be counted toward a coursework track degree. Most full-time students work on funded research projects, leading to a thesis. Most part-time students select the coursework track. In order to be eligible for a Research Assistantship students must select a thesis track.

Program Requirements

Required Common Core Courses 12 s.h.

(s.h.: semester hours/credit hours)

Required Math/Computer Applications Courses 6 s.h.

Choose two (2) from the following:

Course #	Course Title	S. H.
ENGR 01511	Engineering Optimization	3
MATH 03511	Operations Research I	3
MATH 03512	Operations Research II	3
MATH 01515	Engineering Applications of Analysis	3

Required Business Courses 6 s.h.

Choose two (2) from the following:

Course #	Course Title	S. H.
ENT 06506	Corporate Entrepreneurship and New Venture Development	3
MGT 06510	Strategic Engineering Management	3
MGT 06666	Managing Engineering Teams	3
MGT 06677	Management Skills for Engineers	3
MIS 02526	Project Management for Engineers	3

Required Courses 9-18 s.h.

Choose 18 s.h. (non thesis track) or 9-15 (thesis track) of approved electives in consultation with the academic advisor. The eligible courses include, but are not limited to, the following:

Course #	Course Title	S. H.
CEE 08504	Engineering Estimating	3
CEE 08522	Site Remediation Engineering	3
CEE 08531	Solid and Hazardous Waste Management	3
CHE 06512	Safety in the Process Industries	3
CHE 06577	Advanced Engineering Process Analysis and Experimental Design	3
CHE 06580	Optimization of Engineering Projects	3
CHE 06581	Advanced Process Analysis	3
EM 01501	Engineering Economics	3
EM 01512	Strategic Risk Management	3
EM 01513	Engineering Decisions	3
EM 01541	Engineering Law and Ethics	3
ENGR 01511	Engineering Optimization	3
ENGR 01599	Masters Thesis Research	3
MGT 06666	Managing Engineering Teams	3
MGT 06677	Management Skills for Engineers	3
MIS 02526	Project Management for Engineers	3

Required Thesis/Project Courses 6–9 s.h.

Course #	Course Title	S. H.
ENGR 01599	Masters Research	0-9

Total Required Credits for the Program 30 s.h.

Foundation Courses The following undergraduate courses must be successfully completed at an accredited institution: Chemistry I, Physics I, Calculus I, and Statistics I.

Graduation/Exit, Benchmark, and Thesis Requirements If thesis track is selected, students must successfully complete and defend the Master's Thesis.

Minimum Required Grades and Cumulative GPA

The Master of Science in Engineering Management is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Joseph Stanzione
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856.256.5310
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Master of Science in Mechanical Engineering (M.S.)

The Mechanical Engineering program allows a student to develop a high level of competence in engineering design, and a deep understanding of current technology. The interdisciplinary nature of the program provides students with an opportunity to work on exciting research areas at the leading edge of technology. This program also includes the following focus areas: Bioengineering; Mechanics and Materials; Signals, Systems and Computational Intelligence; and Sustainability.

Program Requirements

Required Courses: 9 semester hours (s.h.)

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
MATH 01515	Engineering Applications of Analysis (or equivalent determined in consultation with Academic Advisor)	3
TBD	Engineering Application of Computers (or equivalent determined in consultation with Academic Advisor)	3
TBD	Approved Business course – Please discuss with Academic Advisor.	3

Required Specialized Program Courses 12–21 s.h.

Choose from the following options.

Course #	Course Title	S. H.
ENGR 10513	Revewable Energy: Photovoltaics and Energy Harvesting	3
ME 10501	Computer Integrated Manufacturing and Automation	3
ME 10505	Special Topics in Mechanical Engineering	3
ME 10506	Computational Materials Science	3
ME 10511	Combustion	3
ME 10512	Rocket Propulsion	3
ME 10514	Energy Conversion Systems	3
ME 10521	Gas Dynamics	3
ME 10522	Computational Fluid Dynamics	3
ME 10541	Advanced Mechanism Design	3
ME 10542	Advanced Mechatronics	3
ME 10544	Automotive Engineering	3
ME 10550	Advanced Solid Mechanics	3
ME 10551	Mechanics Continuous Media	3
ME 10552	Structural Acoustics	3
ME 10553	Analytical Dynamics	3
ME 10554	Elastic Stability of Structures	3
ME 10570	Principles in Biomechanics	3
ME 10571	Principles of Biotransport	3

Required Thesis/Project Courses 6–9 s.h.

Course #	Course Title	S. H.
ENGR 01599	Masters Research	6-9

Total Required Credits for the Program 30 s.h.

Foundation Courses None

Graduation/Exit, Benchmark, and Thesis Requirements Thesis Research/Engineering Project. (Students will register for Masters Research (see above) credit hours totaling between 6-9 s.h. Please discuss with your Academic Advisor.)

Minimum Required Grades and Cumulative GPA

The Master of Science in Mechanical Engineering is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

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Master's Degrees Continued

Master of Science in Engineering with Concentration in Biomedical Engineering (M.S.)

The Master of Science in Engineering program with a concentration in Biomedical Engineering at Rowan University effectively prepares individuals to respond to the changing needs of engineers today. This program provides students with the necessary knowledge, skill set, and training to effectively contribute to the engineering workforce. Students have access to higher level courses leading to a graduate degree and are involved in professional development opportunities which increase the breadth of understanding and application of engineering principles.

The Biomedical Engineering concentration gives students an opportunity to expand their skill set in advanced topics of interest. Advanced topics include Biomaterials Engineering, Tissue Engineering and Regenerative Medicine, Bioinstrumentation and Bio signal Processing, and Biomechanics and Mechanobiology.

Program Requirements

The Rowan University Master of Science in Engineering program with a concentration in Biomedical Engineering requires the completion of 30 hours of graduate level coursework and the successful completion and defense of a Master's Thesis.

Coursework The following courses make up the Master of Science in Engineering with Biomedical Concentration.

- **Required Courses:** Minimum of 9 S.H. (chosen in consult with advisor)
- **Concentration Electives:** 12-15 S.H. (chosen in consult with advisor)
- **Research Credits:** 6-9 S.H.

Biomedical Engineering Core Courses 9 s.h.

Students must choose 9 sh from the following bank of courses. An advanced mathematics course is required.

Course #	Course Title	S. H.
MATH 01515	Engineering Applications of Analysis	3
TBD	Engineering Application of Computers equivalent (choose one of the following)	3
ME 10571	Principles in Biotransport	3
CHE 06586	Advanced Engineering Thermodynamics	3
CHE 06571	Biomedical Control Systems	3
	Other equivalent determined in consult with academic advisor	3
TBD	Approved Business course - determined in consult with academic advisor	3

Biomedical Engineering Required Concentration Courses 12-15s.h.

Students must choose 12-15 sh from the following bank of courses in consultation with their advisor. Please note: The following list of concentration courses is not limiting; additional courses may be approved by the academic advisor.

Course #	Course Title	S. H.
MBS 00501	Fundamentals of Biochemistry and Molecular Biology I	3
MBS 00502	Fundamentals of Cell Biology II	3
ENGR 01510	Finite Element Analysis	3
ENGR 01511	Engineering Optimization	3
ENGR 01512	Principles of Nanotechnology	3
BIOL 14540	Intro to Biochemistry	3
CHE 06518	Polymer Engineering	3
CHE 06571	Biomedical Control Systems	3
CHE 06572	Biomedical Process Eng.	3
CHE 06576	Bioseparation Processes I	3
CHE 06578	Tissue Engineering	3
CHE 06584	Controlled Release Theory	3
CHE 06584	Advanced Engineering Thermodynamics	3
ME 10506	Computational Material Science	3
ME 10522	Computational Fluid Dynamics	3
ME 10550	Advanced Solid Mechanics 3	3
ME 10570	Principles in Biomechanics	3
ME 10571	Principles in Biotransport	3
MATH 01505	Probability and Mathematical Statistics	3
MATH 01512	Complex Analysis I	3
MATH 01521	Nonlinear Differential Equations	3
STAT 02510	Introduction to Statistical Data Analysis	3

STAT 02525	Design and Analysis of Experiments	3

Required Thesis/Project Courses		6-9 s.h.
Course #	**Course Title**	**S. H.**
ENGR 01599	Masters Research	6-9

Total Required Credits for the Program	30 s.h.

Foundation Courses The following undergraduate courses are strongly recommended before entering into the program : Chemistry I, Physics I, Calculus I, II, and III, Linear Algebra, and Differential Equations.

Graduation/Exit, Benchmark, and Thesis Requirements

Student must successfully complete and defend a Master's thesis.

Minimum Required Grades and Cumulative GPA

The Master of Science in Engineering with Concentration in Biomedical Engineering is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

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Certificate of Graduate Study (Non-degree)

COGS in Combat Systems Engineering

The immediate region surrounding Rowan University is home to a large number of companies and agencies that serve the defense industry. Collectively, this industry hires more of the graduating Rowan Electrical and Computer Engineering (ECE) students than any other industry. The representatives of this industry have expressed a desire to provide additional knowledge and skill sets – specifically as they relate to combat systems – that they would prefer their employees to have at the time of hiring.

The Certificate of Graduate Study (COGS) in Combat Systems Engineering is a program designed to meet this need and consists of four (4) three-credit graduate level courses. The program allows students to increase the breadth and depth of their knowledge of complex systems with particular applications to combat systems and defense technologies. Completion of this COGS will give students the necessary tools required by the defense industry in analysis, design, evaluation, and validation of combat systems. Students who complete this COGS will be marketable and ready to be imminently employed at graduation by the defense industry companies, not just in our immediate geographic area, but nationwide as well. This program is jointly developed by Rowan ECE and the defense industry representatives. All courses in this COGS are taught by highly qualified faculty, including subject matter experts from the defense industry who have significant industrial experience and hence bring unique industry perspective.

The primary audience of this COGS are:

- Students with Bachelor of Science Degree in Electrical Engineering, Computer Engineering, Systems Engineering, or related engineering fields, who would like to focus on the combat systems engineering for employment in the defense industry, but not necessarily interested in completing a separate, stand alone Master of Science degree program
- Current employees in the defense industry, possibly newly hired, who may need the additional knowledge and skills set in combat systems engineering.

The courses in this COGS are also available to students who would like to complete a M.S. in ECE degree.

Program Requirements

Required Courses

(s.h.: semester hours/credit hours)

Course #	**Course Title**	**S. H.**
ECE 09523	Advanced Radar Systems	3
ECE 09524	Advanced War Gaming and C4ISR	3
ECE 09525	Advanced Command and Control	3
ECE 09526	Advanced Weapon Systems	3

Total Required Credits	12 s.h.

Foundation Courses
MATH 01230 Calculus III; ECE 09321 Systems and Control I (or similar / relevant work experience); ECE 09341 Signals & Systems (or similar / relevant work experience)

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The COGS in Combat Systems Engineering is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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COGS in Engineering for Educators

Certificate of Graduate Study in Engineering for Educators brings together courses from The Henry M. Rowan College of Engineering and the Department of Teacher Education at the College of Education. This program will promote the content and pedagogical development of teachers. The program aligns itself with state-based and national-based education standards that seek to develop future educators who have a strong background in science, math, and technology content through the field of applied engineering as well as developing the pedagogical skill of transitioning this content into their own classrooms. The certificate of Graduate Studies in Engineering for Educators, an interdisciplinary program with the College of Education and the College of Engineering will allow teachers to earn graduate credit when completing Project Lead the Way (PLTW) curriculum training programs offered by the College of Engineering alongside earning graduate credits from the College of Education.

The program goals of the Certificate of Graduate Study in Engineering for Educators are as follows:

- To provide a course of study that leads experienced and inexperienced teachers to obtain the content knowledge they may lack in science, technology, engineering, and math and the pedagogical tools to incorporate this content knowledge into their classroom.
- To prepare highly qualified teachers for STEM national initiatives and to promote their understanding of such initiatives. STEM national initiative seeks to remove the traditional barriers erected between the four disciplines (Science, Technology, Engineering, and Math), by integrating the four subjects into one cohesive means of teaching and learning. The engineering component puts emphasis on the process and design of solutions instead of the solutions themselves. This approach allows students to explore math and science in a more personalized context, while helping them to develop the critical thinking skills that can be applied to all facets of their work and academic lives. Engineering is the method that students utilize for discovery, exploration, and problem-solving

Program Requirements (Option 1)

Required Courses 6 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
SMED 33502	Processes & Principles in School Mathematics	3
SMED 60501	Teaching Methods II: Science	3

Elective Courses 3 s.h.

Choose 3 s.h. from the following:

Course #	Course Title	S. H.
STEM 01540	Automation & Robotics for Middle School Teachers	1.5
STEM 01541	Design & Solid Modeling for Middle School Teachers	1.5
STEM 01550	Engineering Design & Solid Modeling for High School Teachers	3
STEM 01551	Principles of Engineering for High School Teachers	3
STEM 01552	Digital Electronics for High School Teachers	3
STEM 01553	Civil Engineering & Architecture for High School Teachers	3

Total Required Credits for Option 1 9 s.h.

Program Requirements (Option 2)

Required Courses 6 s.h.

Choose 6 s.h. from the following:

Course #	Course Title	S. H.
STEM 01540	Automation & Robotics for Middle School Teachers	1.5
STEM 01541	Design & Solid Modeling for Middle School Teachers	1.5
STEM 01550	Engineering Design & Solid Modeling for High School Teachers	3
STEM 01551	Principles of Engineering for High School Teachers	3
STEM 01552	Digital Electronics for High School Teachers	3
STEM 01553	Civil Engineering & Architecture for High School Teachers	3

Elective Courses 3 s.h.

Choose 3 s.h. from the following:

Course #	Course Title	S. H.
SMED 33502	Processes & Principles in School Mathematics	3
SMED 60501	Teaching Methods II: Science	3

Total Required Credits for Option 2 9 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Engineering for Educators is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

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Undergraduate Degree-Completion Programs

(These programs lead to Bachelor's degrees. They are offered through the Division of Global Learning & Partnerships, but official course descriptions and more about the program as a whole are included in Rowan's Undergraduate Catalog: www.rowan.edu/catalogs .)

Bachelor of Arts in Construction Management

Rowan University's Bachelor of Arts in Construction Management degree completion program provides those with an Associate's degree or at least 60 credits with the remaining credits necessary to complete a bachelor's degree in this growing field while taking classes online. Applicants with less than 60 credits may work with an enrollment counselor to explore available options. This program is ideal for journeypersons and seasoned professionals in the construction industry as well as apprentices who are looking to develop leadership skills and advance their careers. The Bachelor of Arts in Construction Management degree prepares individuals to supervise, manage, and inspect construction sites, buildings, and associated facilities. Rowan University's program has received the endorsement of the **North America's Building Trades Unions**.

Upon completion of the program students will be able to:

- Supplement construction experience with the managerial skills required to propose, plan, and implement a range of construction projects.
- Develop competence in integrating safe and ethical practices efficiently and profitably.
- Communicate effectively with construction teams and community members.
- Develop effective project management strategies and techniques.
- Manage construction projects with scheduling software.
- Estimate quantity take-offs and costs with computers.
- Address issues related to construction law and project management.
- Understand materials and methods listed in the construction specification institute's Master Format.

Program Requirements

The Bachelor of Arts in Construction Management will consist of 120 credits which include 36 credits of online construction management courses, 46 credits of general education, and 38 credits of electives (see breakout below). It is expected that admitted students will have either an Associate's degree or an equivalent number of credits. Since the major/core construction management courses will consist of twelve courses yielding 36 credits, the remaining credits will account for general education and free electives. One of the particular aspects of this program will be for students to be able to convert into credits part of their working experience through Prior Learning Assessment (PLA).

Required Courses 30 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S. H.
CM 01301	Fundamentals of the Construction Industry I	3 s.h
CM 01302	Fundamentals of the Construction Industry II	3 s.h
CM 01303	Project Building Systems	3 s.h
CM 01304	Project Administration	3 s.h
CM 01305	Cons Cost Accounting, Estimating & Finance	3 s.h
CM 01306	Construction Project Planning & Scheduling	3 s.h
CM 01407	Advanced Leadership & Communication	3 s.h
CM 01408	Industrial Relations in the Construction Industry	3 s.h
CM 01409	Building Energy Systems for Cons Managers	3 s.h
CM 01410	Building Construction Systems & Codes	3 s.h
CM 01411	Construction Safety and Loss Prevention	3 s.h
CM 01412	Capstone Course	3 s.h.

General Education Requirements 46 s.h.

General Education Requirements: 31 s.h.

- Composition: 6 s.h.
- Science (Lab) & Mathematics: 7 s.h.
- Social and Behavioral Sciences: 6 s.h.
- History, Humanities & Language: 6 s.h.
- Non-Program Courses: 6 s.h.

Rowan Experience Requirements: 15 s.h.

- Artistic and Creative Experience: 3 s.h.
- Literature: 3 s.h.
- Multicultural/Global: 3 s.h.
- Public Speaking: 3 s.h.
- Writing Intensive: 3 s.h.

- **Electives** 38 s.h.
- **Total Hours Required for Graduation (with Gen Ed Courses)** 120 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Program Coordinator/Advisor Contact Information

Stephen J. Krone
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College of Performing Arts

Rick Dammers
Dean
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Melanie Stewart
Associate Dean
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History

The College of Performing Arts (formerly, the School of Fine and Performing Arts at Glassboro State College) was founded in 1971. In 1997, during the transition from Glassboro State College to Rowan University, the School became the College of Fine and Performing Arts. The College was renamed the College of Performing Arts in 2012. Today, the College is comprised of the Departments of Music (including the Maynard Ferguson Institute of Jazz Studies) and Theatre & Dance. The College offers baccalaureate degrees in the fields of Dance , Music, Music Industry, Theatre and graduate degrees in Music and Theatre: Arts Administration.

In addition to more than 250 performances on campus each year, the faculty, staff, and students collaborate in scholarly and artistic activities at the international, national, and regional levels.

Mission

The College of Performing Arts at Rowan University develops artists and audiences of the future and promotes the arts as vital to humanity. Through rigorous professional preparation and liberal arts programs, the College of Performing Arts educates students in the disciplines of dance, music, and theatre and challenges them to develop a conceptual, critical, and creative perspective within the contemporary world. The college creates, illuminates, and inspires audiences and community through public performances and artistic practice for the university and broader region.

Accreditation

Specialized, national arts accreditation has been granted by the following organizations:

- The National Association of Schools of Music
- The National Association of Schools of Theatre

Departments

The College of Performing Arts houses the academic departments of Music and Theatre & Dance. (Not all departments offer programs through the Division of Global Learning & Partnerships.)

Programs Offered

All programs offered are listed below in order of degree/program type and then in alphabetical order by program name. Details about each program are then listed within the catalog in the same order. For the most up-to-date information regarding mode of delivery options for your program of interest, please visit www.rowanu.com/programs .

MASTER'S DEGREES

Program Name		Program/Major Codes	Avail FT/PT	
Master of Music		MM-MUSIC/G004	Both	
Concentration Name	**Format/Location**	**Concentration Code**		**Total Credits**
Composition	Face-to-face/Glassboro	P012		33–40
Conducting	Face-to-face/Glassboro	P016		34–40
Instrumental Performance	Face-to-face/Glassboro	P017		34–38
Jazz Studies	100% Online or Hybrid	P018		32
Vocal Performance	Face-to-face/Glassboro	P019		34–38
Master of Arts in Theatre		MA- THEATRE/G007	Part-time	
Concentration Name	**Format/Location**	**Concentration Code**		**Total Credits**
Arts Administration	100% Online	P009		30

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Master's Degrees

Master of Music Overview

The Master of Music program provides intensive experiences in performance, conducting, jazz studies, or composition as well as courses geared to enhance the student's knowledge and understanding of the literature of their area of concentration, and a greater understanding of music in general. The Master of Music program at Rowan University is for the aspiring musician who wishes to make a career as a jazz musician, classical performer, conductor, or composer or will continue their studies at the Ph.D. or DMA level. Graduates of Rowan's Master of Music program have gone on to major doctoral programs, performing careers, arts leadership positions, and careers as college professors and public school teachers.

Master of Music Concentrations

The Master of Music program offers the degree with four concentrations as detailed below:

- Composition
- Conducting (Instrumental or Choral)
- Performance (Instrumental or Vocal)
- Jazz Studies

Notes:

- Students will officially declare their concentration at the time of application during the audition.
- Concentration requirements may only be modified by permission of the program coordinator.

The Master of Music requires 32-40 semester hours depending upon the concentration selected at the time of application. The Master of Music degree at Rowan University is designed to be 4 semesters long.

Students will take Music Theory and Music History placement exams the first week of classes (not admission bearing).

Admissions

A performance audition or portfolio review is required for admission to the Master of Music program. Audition requirements for each instrument or area of concentration can be found at www.rowan.edu/music/auditions .

An appointment for audition will be scheduled once the candidate's application is complete. The auditions are scheduled on an individual basis according to the following procedures:

- **Voice, Instrument, Jazz Studies**: This audition can be taken during the academic year (September through April) by appointment.

- **Conducting**: If a candidate is invited to Phase 2 of the audition process, this audition must be scheduled during the academic year (October through April).
- **Composition**: The composition portfolio and accompanying materials can be submitted year round.

An audition can be scheduled by contacting Professor Veda Zuponcic, Academic Advisor, at zuponcic@rowan.edu or 856-256-4500 ext. 3563.

For the most up-to-date information regarding admission requirements, entry points, and application deadlines, please visit www.rowanu.com/programs . Click on your program of interest to be connected to program and admission details.

Master of Music: Composition (M.M.)

Program Requirements

See the Master of Music Overview.

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MUS 04560	Form and Analysis (Or Counterpoint if Form and Analysis was completed at the UG level)	3
MUS 04570	20th Century Literature & Techniques	3
MUSG 05547	Music & the Related Arts	3
SMED 32502	Teaching Music Theory	3

Required Concentration Courses

Group A 12–16 s.h.

Choose 12-16 s.h. from the following. Be sure to include at least one offering each of Composition I and one offering of Composition II.

Course #	Course Title	S.H.
MUS 10525	Graduate Music Composition I	4
MUS 10526	Graduate Music Composition II	4
MUS 10527	Graduate Music Composition I	6
MUS 10528	Graduate Music Composition II	6

Group B 2 s.h.

Choose 2 s.h. from the following (Course numbers rotate each semester.)

Course #	Course Title	S.H.
MUS 10537 - MUS 10540	Graduate Ensemble: Concert Choir	1
MUS 10541 - MUS 10544	Graduate Ensemble: Jazz Band	1
MUS 10545 - MUS 10548	Graduate Ensemble: Lab Band	1
MUS 10549 - MUS 10552	Graduate Ensemble: Orchestra	1
MUS 10553 - MUS 10556	Graduate Ensemble: Wind Ensemble	1
MUS 10569 - MUS 10572	Graduate Ensemble: Chamber Music	1
MUS 10576 - MUS 10579	Graduate Ensemble: Contemporary Music	1

Group C 2 s.h.

Choose 2 s.h. from the following.

Course #	Course Title	S.H.
MUS 10501	Graduate Secondary Applied Instrument I	2
MUS 10505	Graduate Secondary Applied Voice I	2

Elective Courses 5-8 s.h.

Choose courses from the following to total 5-8 credit hours.

Course #	Course Title	S.H.
MUS 04541	Jazz Piano (non-keyboard students)	1
MUS 04551	Piano Accompanying	1
MUS 04555	Counterpoint	3
MUS 04557	Advanced Orchestration	3
MUS 04561	Score Reading I	1
MUS 04562	Score Reading II	1
MUS 04565	Seminar in Band Conducting	3
MUSG 06503	Jazz History	3

MUSG 06506	Art Song Literature	3
MUSG 06509	String Instrument Literature	3
MUSG 06511	Survey of 20th Century Band Literature	3
MUSG 06542	Opera Literature	3
MUSG 06545	Development & Interpretation of Choral Literature	2
MUSG 06546	Development & Interpretation of Symphonic Literature	3
MUSG 06510	Keyboard Literature	3
SMED 32507	Piano Pedagogy	3

Total Required Credits for the Program 33–40 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

- Culminating Experience: recital, lecture, and/or thesis
- Successful completion of oral comprehensive exam

Minimum Required Grades and Cumulative GPA

The Master of Music is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Veda Zuponcic
Harold F. Wilson Hall
856.256.4500 ext. 3563
zuponcic@rowan.edu

Master of Music: Conducting (Instrumental or Choral) (M.M.)

See the Master of Music Overview. The following three focus areas are available for a Master of Music in Conducting:

- Choral Conducting
- Orchestral Conducting
- Wind Conducting

Program Requirements

Required Courses 8 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MUS 04560	Form & Analysis (Or Counterpoint if Form and Analysis was completed at the UG level)	3
MUS 04561	Score Reading I	1
MUS 04562	Score Reading II	1
MUSG 05547	Music & the Related Arts	3

Required Concentration Courses

Group A 12-16 s.h.

Choose 12-16 s.h. from the following.

Course #	Course Title	S.H.
MUS 10529	Graduate Conducting I	4
MUS 10530	Graduate Conducting II	4
MUS 10531	Graduate Conducting III	4
MUS 10532	Graduate Conducting IV	4
MUS 10533	Graduate Conducting I	6
MUS 10534	Graduate Conducting II	6

Group B 2-4 s.h.

Choose 2-4 s.h. from the following. (Course numbers rotate each semester.)

Course #	Course Title	S.H.
MUS 10537 - MUS 10540	Graduate Ensemble: Concert Choir	1
MUS 10541 - MUS 10544	Graduate Ensemble: Jazz Band	1
MUS 10545 - MUS 10548	Graduate Ensemble: Lab Band	1
MUS 10549 - MUS 10552	Graduate Ensemble: Orchestra	1
MUS 10553 - MUS 10556	Graduate Ensemble: Wind Ensemble	1
MUS 10561 - MUS 10564	Graduate Ensemble: Statesmen	1
MUS 10565 - MUS 10568	Graduate Ensemble: Women's Choir	1
MUS 10569 - MUS 10572	Graduate Ensemble: Chamber Music	1

Required Focus Area Courses 2-4 s.h.

Students select one focus area from the three below.

Choral Conducting Focus Area

Choose 9 s.h. from the following.

Course #	Course Title	S.H.
MUS 04514	Choral Procedures	2
MUSG 06542	Opera Literature	3
MUSG 06545	Development & Interpretation of Choral Literature	2
TBD	Select an approved French or Italian or German language course	3

Orchestral Conducting Focus Area

Choose 9 s.h. from the following.

Course #	Course Title	S.H.
MUS 04557	Advanced Orchestration	3
MUSG 06542	Opera Literature	3
MUSG 06546	Development & Interpretation of Symphonic Literature	3

Wind Conducting Focus Area

Choose 9 s.h. from the following.

Course #	Course Title	S.H.
MUS 04557	Advanced Orchestration	3
MUS 04565	Seminar in Band Conducting	3
MUSG 06511	Survey of 20th Century Band Literature	3

Elective Courses 3 s.h.

Choose 3 s.h. from the following.

Course #	Course Title	S.H.
MUS 04551	Piano Accompanying	1
MUSG 06503	Jazz History	3
MUSG 06506	Art Song Literature	3
MUSG 06509	String Instrument Literature	3
MUSG 06542	Opera Literature	3
MUSG 06545	Development & Interpretation of Choral Literature	2
MUSG 06546	Development & Interpretation of Symphonic Literature	3
MUSG 06510	Keyboard Literature	3
SMED 32507	Piano Pedagogy	3

Total Required Credits for the Program 34-40 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

- Culminating Experience: recital, lecture, and/or thesis
- Successful completion of oral comprehensive exam

Minimum Required Grades and Cumulative GPA

The Master of Music is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Veda Zuponcic
Wilson Hall
856.256.4500 ext. 3563
zuponcic@rowan.edu

Master of Music: Jazz Studies (M.M.)

See the Master of Music Overview.

Program Requirements

Required Courses 18 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MUS 04540	Jazz Arranging	3
MUS 05503	Jazz Composition	3
MUS 05500	Analyzing Jazz Structures A	1
MUS 05501	Analyzing Jazz Structures B	1
MUS 05502	Analyzing Jazz Structures C	1
MUS 40315	Music Entrepreneurship	3
MUSG 06503	Jazz History	3
MUSG 05547	Music & the Related Arts	3

Required Concentration Courses

Group A 12 s.h.

Course #	Course Title	S.H.
MUS 10509	Graduate Applied Instrument I	4
MUS 10510	Graduate Applied Instrument II	4
MUS 10511	Graduate Applied Instrument III	4

Group B 2 s.h.

Choose 2 s.h. from the following. (Course numbers rotate each semester.)

Course #	Course Title	S.H.
MUS 10541 - MUS 10544	Graduate Ensemble: Jazz Band	1
MUS 10545 - MUS 10548	Graduate Ensemble: Lab Band	1

Total Required Credits for the Program 32 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

- Culminating Experience: recital, lecture, and/or thesis
- Successful completion of oral comprehensive exam

Minimum Required Grades and Cumulative GPA

The Master of Music is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Robert Rawlins
Wilson Hall
856.256.4500 ext. 3711
rawlins@rowan.edu

Master of Music: Performance (Instrumental or Vocal) (M.M.)

See the Master of Music Overview.

The following four focus areas are available for a Master of Music in Performance:

- Orchestral Instruments
- Guitar
- Keyboard
- Voice

Program Requirements

Required Courses 6 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MUS 04560	Form and Analysis (Or Counterpoint if Form and Analysis was completed at the UG level)	3
MUSG 05547	Music and the Related Arts	3

Required Graduate Performance Music Courses 12–16 s.h.

Choose 12-16 s.h. from the following.

Course #	Course Title	S.H.
MUS 10509	Graduate Applied Instrument I	4
MUS 10510	Graduate Applied Instrument II	4
MUS 10511	Graduate Applied Instrument III	4
MUS 10512	Graduate Applied Instrument IV	4
MUS 10513	Graduate Applied Voice I	4
MUS 10514	Graduate Applied Voice II	4
MUS 10515	Graduate Applied Voice III	4
MUS 10516	Graduate Applied Voice IV	4
MUS 10517	Graduate Applied Instrument I	6
MUS 10518	Graduate Applied Instrument II	6
MUS 10519	Graduate Applied Instrument III	6
MUS 10520	Graduate Applied Instrument IV	6
MUS 10521	Graduate Applied Voice I	6
MUS 10522	Graduate Applied Voice II	6
MUS 10523	Graduate Applied Voice III	6
MUS 10524	Graduate Applied Voice IV	6

Required Concentration Courses 2–4 s.h.

Choose 2-4 s.h. from the following. (Course numbers rotate each semester.)

Course #	Course Title	S.H.
MUS 10537 - MUS 10540	Graduate Ensemble: Concert Choir	1
MUS 10541 - MUS 10544	Graduate Ensemble: Jazz Band	1
MUS 10545 - MUS 10548	Graduate Ensemble: Lab Band	1
MUS 10549 - MUS 10552	Graduate Ensemble: Orchestra	1
MUS 10553 - MUS 10556	Graduate Ensemble: Wind Ensemble	1
MUS 10557 - MUS 10560	Graduate Ensemble: Opera Company	1
MUS 10569 - MUS 10572	Graduate Ensemble: Chamber Music	1

Required Focus Area Courses 2–11 s.h.

Students select one focus area from the four below.

Orchestral Instruments Focus Area

Students in this focus area complete 2 s.h. as follows.

Course #	Course Title	S.H.
MUS 04536	Chamber Music I	1
MUS 04537	Chamber Music II	1

Guitar Focus Area

Students in this focus area complete 8 s.h. as follows.

Course #	Course Title	S.H.
MUS 04536	Chamber Music I	1
MUS 04537	Chamber Music II	1
MUSG 06505	History and Literature of Guitar and Lute	3
SMED 32506	Guitar Pedagogy	3

Keyboard Focus Area

Students in this focus area complete 7 s.h. as follows.

Course #	Course Title	S.H.
MUS 04551	Piano Accompanying	1
MUSG 06510	Keyboard Literature	3
SMED 32507	Piano Pedagogy	3

Vocal Focus Area

Students in this focus area complete 11 s.h. as follows.

Course #	Course Title	S.H.
	Select an approved French or Italian or German language course	3
MUS 04545	Opera Role Study I	3
MUS 04546	Opera Role Study II	3
MUS 04551	Piano Accompanying	1
MUSG 06506	Art Song	3
MUSG 06542	Opera Literature	3

Elective Courses 3–12 s.h.

Students select one focus area from the four below.

- Students in the Orchestral Instruments focus area choose 12 s.h. from the following.
- Students in the Guitar focus area choose 5 s.h. from the following.
- Students in the Keyboard focus area choose 7 s.h. from the following.
- Students in the Vocal focus area choose 3 s.h. from the following.

Course #	Course Title	S.H.
MUS 04536	Chamber Music I	1
MUS 04537	Chamber Music II	1
MUS 04541	Jazz Piano	1
MUS 04545	Opera Role Study	3
MUSG 06503	Jazz History	3
MUSG 06506	Art Song Literature	3
MUSG 06509	String Instrument Literature	3
MUSG 06542	Opera Literature	3
MUSG 06545	Development & Interpretation of Choral Literature	2
MUSG 06546	Development & Interpretation of Symphonic Literature	3
SMED 32502	Teaching Music Theory	3
MUSG 06510	Keyboard Literature	3
SMED 32507	Piano Pedagogy	3

Total Required Credits for the Program 34–38 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

- Culminating Experience (Recital)
- Successful completion of oral comprehensive exam

Minimum Required Grades and Cumulative GPA

The Master of Music is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Veda Zuponcic
Wilson Hall
856.256.4500 ext. 3563
zuponcic@rowan.edu

Master of Arts in Theatre: Arts Administration (M.A.)

The Master of Arts (M.A.) in Theatre: Arts Administration will provide students with the business, marketing, and administrative skills needed to initiate their own performing arts organizations or to secure stable administrative positions in regional or national arts venues or institutions. This program provides vital, up-to-date strategies taught by well-known working professionals representing disciplines of visual arts, music, theatre, dance, and business. Students who graduate from this program will be prepared to pursue careers in theatre management or other administrative roles such as gallery directors, music producers, and dance company managers or as arts/cultural entrepreneurs.

Program Requirements

Required Courses 30 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
THD 07505	Independent Study in Graduate Theatre & Arts Administration	3
OR THD 07515	Internship in the Arts	
THD 07511	Production/Performance/Arts Administration Project	3
THD 07537	Advocacy and Arts Policy	3
THD 07530	Arts Administration Leadership	3
THD 07531	Producing & The Arts	3
THD 07532	Arts Planning: An Elegant Process	3
THD 07533	Audience Development	3
THD 07534	Education & Outreach Programs in the Arts	3
THD 07535	Curatorial Practice in the Arts	3
THD 07536	Fundraising & Development for the Arts	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Master of Arts in Theatre: Arts Administration is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Terry Fox
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College of Humanities & Social Sciences

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Mission

1. Empower students to create innovative academic pathways so that they may become successful and adaptable leaders and innovators with a lasting impact on society.
2. Faculty and students engage with local and global communities to conduct transformative research that mobilizes knowledge to benefit society.
3. Grow and develop mutually beneficial connections among students, faculty, and community partners to reimagine the future.

Vision

1. *Empower. Transform. Engage.* Creating connections in teaching, research, and service to advance society.

Departments

The departments in the College of Humanities and Social Sciences are: English, Foreign Languages and Literatures, History, Law and Justice Studies, Philosophy and Religion Studies, Political Science and Economics, and Sociology and Anthropology. (Not all departments offer programs through the Division of Global Learning & Partnerships.)

Programs Offered

All programs offered are listed below in order of degree/program type and then in alphabetical order by program name. Details about each program are then listed within the catalog in the same order. For the most up-to-date information regarding mode of delivery options for your program of interest, please visit www.rowanu.com/programs .

MASTER'S DEGREES

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Master of Arts in Criminal Justice	100% online, blended, and face-to-face at Glassboro Campus	MA-CRIJUS/G105	Both	30
Master of Arts in History	Face-to-face at Glassboro campus	MA-HIST/G205	Both	30

CERTIFICATES OF GRADUATE STUDY (NON-DEGREE)

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Certificate of Graduate Study in Global History	Face-to-face at Glassboro campus	COG-WRLDHIS/G121	Both	15
Certificate of Graduate Study in History	Face-to-face at Glassboro campus	COG- HISTORY/G120	Both	15
Certificate of Graduate Study in Urban Health Disparities	Face-to-face at Glassboro campus	COG-UHDISP/G923	Both	12

UNDERGRADUATE DEGREE-COMPLETION PROGRAMS

(These programs lead to bachelor's degrees. They are offered through the Division of Global Learning & Partnerships but official course descriptions and more about the program as a whole are included in Rowan's Undergraduate Catalog: www.rowan.edu/catalogs .)

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Bachelor of Arts in Disaster Preparedness and Emergency Management	face-to-face/Camden campus	BA-DPEM/4300	Full-time	121
Bachelor of Arts in Human Services	face-to-face/Camden campus	BA-HUMSVC/3101	Full-time	120
Bachelor of Arts in Law & Justice Studies	100% online and accelerated, blended with face-to-face meetings at Rowan College of Gloucester County, and face-to-face at Camden campus	BA- LAWJUST/2105	Both if student chooses and has the need for additional credits beyond the major	120
Bachelor of Arts in Liberal Studies: Humanities/Social Science	100% online and accelerated, and blended with face-to-face meetings at Rowan College of Gloucester County	BA-LIBSTU/4933	Both if student chooses and has the need for additional credits beyond the major	120
Bachelor of Arts in Sociology	face-to-face/Camden campus	BA-SOC/2208 (General Program) BA-SOC/2209 (Applied Sociology Concentration)	Full-time	120
Bachelor of General Studies	Online	BGS-GENLSTU/4992	Full-time	120-126

Admissions

For the most up-to-date information regarding admission requirements, entry points, and application deadlines, please visit www.rowanu.com/programs . Click on your program of interest to be connected to program and admission details.

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Master's Degrees

Master of Arts in Criminal Justice (M.A.)

The Master of Arts in Criminal Justice prepares students for leadership positions in criminal justice agencies; for research positions in federal, state, county, city, non-profit and private research institutions; and for further study in doctoral programs. The program focuses on the growing emphasis in the criminal justice system on using research evidence to evaluate the effectiveness of programs and policies aimed at preventing and controlling crime.

Graduate faculty have earned doctoral degrees from the best Criminal Justice programs in the country, and have practical experience working in the system as well as diverse academic interests. Both the Thesis and Non-Thesis tracks prepare students for professional careers by providing an understanding of the causes of crime, the impact of law on society and contemporary issues in policing, courts and corrections.

Tracks

The Face-to-face program on the Glassboro campus includes two tracks. Each has different course and graduation exit requirements which are outlined in the chart. The Thesis Track is not available to Online or 4+1 students.

- **Thesis Track:** Students choosing the Thesis Track will complete 6 required courses, select two electives, and earn six credits for doing research and writing a thesis while working closely with experienced faculty.
- **Non-Thesis Track:** Students choosing the Non-Thesis Track will complete 6 required courses, select four electives, and take a comprehensive exam after completing their coursework. Online and 4+1 students follow the Non-Thesis track.

Rowan University undergraduates majoring in the Bachelor of Arts in Law and Justice Studies program can apply to the accelerated Bachelor of Arts/Master of Arts dual degree (4+1) program allowing them to earn both the Bachelor of Arts and Master of Arts degrees in five years.

Program Requirements

Required Courses 18 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CJ 09510	Contemporary Issues in Criminal Justice	3
CJ 09511	Research Methods I	3
CJ 09512	Research Methods II	3
CJ 09515	Law and Society	3
CJ 09517	Criminal Justice Policy Analysis	3
CJ 09518	Contemporary Developments in Theory	3

Elective Courses 6-12 s.h.

Choose 12 s.h. (non-thesis track) or 6 s.h. (thesis track) of approved electives in consultation with the Academic Advisor.

Course #	Course Title	S.H.
CJ 09516	Administrative Law/Ethics	3
CJ 09519	Seminar in Criminal Justice Planning	3
CJ 09520	Courts and Supportive Agencies	3
CJ 09521	Prevention and Rehabilitation	3
CJ 09522	Seminar in Violence	3
CJ 09523	White Collar Crime	3
CJ 09524	Police and Society	3
CJ 09525	Altruism, Cooperation, and Criminal Justice	3
CJ 09526	Management of Criminal Justice Organizations	3
CJ 09527	Gender & Crime	3
CJ 09528	Seminar in Juvenile Justice and Delinquency	3
CJ 09529	Community Justice	3
CJ 09530	International Criminal Law Seminar	3
CJ 09532	Race, Ethnicity, Class & Justice	3
	Other approved graduate-level courses as approved by Academic Advisor	3

Required Thesis Courses (if Thesis-track is selected) 6 s.h.

Course #	Course Title	S.H.
CJ 09601	Master's Thesis in Criminal Justice I	3
CJ 09602	Master's Thesis in Criminal Justice II	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Successful completion of comprehensive exam is required for those who select the non-thesis track.
- If thesis track is selected, students must successfully complete and defend Master's Thesis.

Minimum Required Grades and Cumulative GPA

The Master of Arts in Criminal Justice is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Contact Information

Program Coordinator/Academic Advisor (on-campus)
Wanda D. Foglia
Campbell Library
856.256.4399
foglia@rowan.edu

Program Coordinator/Academic Advisor (online)
Joseph Johnson
Campbell Library
856.256.4500 ext. 3722
johnsonjo@rowan.edu

Master of Arts in History (M.A.)

The Master of Arts in History at Rowan is designed mainly for students who desire increased competence in historical studies preparatory or supplementary for teaching in that field on the high school or community college level. It is also appropriate for students who seek qualification for admission to a doctoral program at another institution and for students who wish to pursue a liberal education at an advanced level for intellectual challenge and personal self-fulfillment.

Our program is set in the tradition of a Liberal Arts education. Courses offer an opportunity for students to extend their knowledge and enhance their competence in historical studies through direct, face-to-face interaction with Rowan's award-winning, full-time faculty members.

Total graduate semester hours required for program completion is 30. Students are encouraged to devote at least 12 credits of their electives to pursuing an area of concentration in American, European, or global history, but they must take at least one course in another area. Up to 6 credits may be taken as independent study, and students may take one elective graduate course outside of the History Program, chosen in consultation with the graduate advisor.

Tracks

The program includes two tracks. Each has different course and graduation exit requirements which are outlined in the chart.

- **Thesis Track:** The Master of Arts Thesis Track is designed for those who are interested in pursuing original research and is strongly recommended for those who are planning to do doctoral work in history. Students pursuing the thesis track will complete the 6 required credits, 18 elective graduate credits in history, and 6 credits of Master's Thesis.
- **Non-Thesis Track:** Students may choose to complete the degree by pursuing coursework without a thesis. This track may be appropriate for those seeking professional development or broader content knowledge. Students pursuing the non-thesis track will complete the 6 required credits and 24 elective graduate credits in history.

Rowan University undergraduates majoring in the Bachelor of Arts in History program can apply to the accelerated B.A./M.A. dual degree (4+1) program allowing them to earn both the Bachelor of Arts and Master of Arts degrees in five years.

Program Requirements

Required Courses — 6 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
HIST 05510	Readings & Research in History I	3
HIST 05512	Readings & Research in History II	3

Elective Courses — 18-24 s.h.

Choose 24 s.h. (non-thesis track) or 18 s.h. (thesis-track) of approved electives in consultation with the Academic Advisor.

Course #	Course Title	S.H.

HIST 05511	Colloquium in American History I	3
HIST 05514	Colloquium in American History II	3
HIST 05516	Colloquium in American History III	3
HIST 05522	Colloquium in European History I	3
HIST 05523	Colloquium in European History II	3
HIST 05524	Colloquium in European History III	3
HIST 05531	Colloquium in Global History I	3
HIST 05533	Colloquium in Global History II	3
HIST 05535	Colloquium in Global History III	3
HIST 05545	History of Crime	3
HIST 05551	Graduate Independent Study	3

Required Thesis Courses (if thesis track is selected) 6 s.h.

Course #	Course Title	S.H.
HIST 05601	Master's Thesis in History I	3
HIST 05602	Master's Thesis in History II	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

If thesis track is chosen, students must successfully complete and defend Master's Thesis.

Minimum Required Grades and Cumulative GPA

The Master of Arts in History is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

Scott Morschauser
Robinson Hall
856.256.4500 ext. 3993
morschauser@rowan.edu

Certificates of Graduate Study (Non-degree)

Certificate of Graduate Study in Global History (COGS)

The Certificate of Graduate Study in Global History offers an opportunity to study on a graduate level for professional or personal development. The courses will range from topics in Latin American, Russian, Asian, African and Middle Eastern history. Each offering will familiarize students with relevant primary and secondary sources, as well as up-do-date historical interpretations and methodologies in the respective fields.

Program Requirements

- Total semester hours required graduate work for program completion: 15 Semester Hours (s. h.)
- 12 s.h. must be in areas other than United States history

Required Courses 9 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
HIST 05511	Colloquium in American History	3
HIST 05522	Colloquium in European History	3
HIST 05531	Colloquium in Global History	3

Elective Courses 6 s.h.

Select two courses jointly approved by the applicant and the graduate advisor.

Total Required Credits for the Program 15 s.h.

Foundation Courses
None

Graduation/Exit, Benchmark, and/or Thesis Requirements
None

Minimum Required Grades and Cumulative GPA
The Certificate of Graduate Study in Global History is a Category 3 program.
For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Certificate of Graduate Study in History (COGS)

The Certificate of Graduate Study in History offers an opportunity to study history on a graduate level for professional or personal development. The courses will familiarize students with relevant primary and scholarly sources as well as up to date historical interpretations and methodologies in the field.

Program Requirements

- Total semester hours required graduate work for program completion: 15 Semester Hours (s. h.)

Required Courses 9 s.h.
(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
HIST 05511	Colloquium in American History	3
HIST 05522	Colloquium in European History	3
HIST 05531	Colloquium in Global History	3

Elective Courses 6 s.h.
Select two courses jointly approved by the applicant and the graduate advisor.

Total Required Credits for the Program 15 s.h.

Foundation Courses
None

Graduation/Exit, Benchmark, and/or Thesis Requirements
None

Minimum Required Grades and Cumulative GPA
The Certificate of Graduate Study in History is a Category 3 program.
For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Scott Morschauser
Robinson Hall
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Certificate of Graduate Study in Urban Health Disparities (COGS)

The Certificate of Graduate Study in Urban Health Disparities provides a sequence of courses for those who wish to work in a variety of settings geared toward community health advocacy and leadership or other positions in non-profit organizations, hospitals, business, community health organizations, governmental agencies, non-governmental organizations, research and advocacy groups, faith-based institutions, and educational institutions. The program's focus on health care inequity, health care access, and social justice issues will enhance students' marketability for leadership positions in organizations seeking individuals with social action and community-health knowledge. The Urban Health Research Studio experience can be an applied community-based field experience (whenever possible) or a pure research endeavor with Rowan University faculty members.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
SOC 08575	Social Determinants of Health: Theory and Intervention in Urban Settings	3
SOC 08599	Urban Environmental Health	3
SOC 08600	Social Experience of City Life and Urban Inequalities	3
SOC 08690	Urban Health Research Studio	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Urban Health Disparities is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Undergraduate Degree-Completion Programs
(These programs lead to Bachelor's degrees. They are offered through the Division of Global Learning & Partnerships, but official course descriptions and more about the program as a whole are included in Rowan's Undergraduate Catalog: www.rowan.edu/catalogs .)

Bachelor of Arts in Disaster Preparedness and Emergency Management (B.A.)

The Bachelor of Arts in Disaster Preparedness and Emergency Management is an interdisciplinary academic program designed to provide rigorous academic preparation for students interested in seeking advanced professional homeland security education and training or a career in international, national, state, and local disaster preparedness, emergency management, and safety areas with an emphasis on urban environments. The current focus areas include biomedical preparedness (in conjunction with the Cooper Medical School of Rowan University), public administration and civic leadership, and civil safety/justice administration, all of which lead to establishing core competencies in emergency preparedness. In addition to providing students with a broad understanding of safety and security issues, the Disaster Preparedness and Emergency Management degree program focuses on several vital components of the emergency management field:

- Critical Infrastructure Protection
- Disaster Preparedness and Response
- Intelligence Sharing and Analysis

Graduates will be prepared to work in a variety of settings and agencies that focus on emergency rescue and response, homeland security, hospitals, municipal emergency management, county emergency management, safety management, intelligence analysis, private security, airports, state and local law enforcement, federal law enforcement, customs investigators, special agents, military service and border security and patrol.

Program Requirements

The Disaster Preparedness and Emergency Management program consists of 121 S.H. of coursework, including 30 S.H. of core requirements coursework, and 9 S.H. of focus area courses. The 30 S.H. of core major requirements provide a common foundation for all majors with an emphasis on ethics to assist the student in developing complex thinking skills. As part of the 30 S.H. of core courses, each student will complete a 3 S.H. internship experience designed to provide an experiential learning opportunity and to give the student a more practical view of the intended career path. In addition to the core requirements, general education requirements, and electives, each student will choose a focus area:

- **Focus Area 1:** Public Administration and Policy for Crisis Decision Leadership- 9 additional S.H of Political Science/Public Administration, Disaster Leadership or Risk Analysis coursework
- **Focus Area 2:** Justice, Safety and Homeland Security Administration- 9 additional S.H. of Law & Justice coursework with focus on Homeland Security or Risk Analysis
- **Focus Area 3:** Emergency Health Preparedness and Biomedical Safety- 9 additional S.H. of Biomedical/Population Health and Epidemiology or Risk Analysis coursework

In addition to courses in Political Science, Law and Justice, Anthropology, Sociology and the Physical Sciences, students can also use the following Disaster Preparedness and Emergency Management courses to fulfill Focus Area requirements.

DPEM 43355	Emergency Exercises: Design, Implementation and Evaluation	3
DPEM 43395	Emergency Operations and Business Continuity	3
DPEM 43420	Risk Analysis for Disaster Preparedness and Homeland Security	3
DPEM 43300	Bioterrorism and Weapons of Mass Destruction	3

Required BA-DPEM Core Courses 30 s.h.

(s.h.: semester hours/credit hours)

DPEM 00101	Intro to Emergency Management and Homeland Security	3
DPEM 00310	Critical Infrastructure and Incident Command Laboratory	3
LAWJ 05326	International Terrorism	3
SOC 08429	Organizational response to Disasters and Crisis	3
SOC 08328	Sociology of Disasters and Crisis	3
DPEM 00410	Public Leader in Crisis Management and Communication	3
GEOG 16334	Geosciences of Natural Disasters	3
DPEM 00400	Disaster Planning, Mitigation and Recovery	3

Research Methods 3 s.h.

Choice of 1 below (3 s.h.)

LAWJ 05380	Criminal Justice Research Methods	3
POSC 07360	Methodology and Statistics in Political Science research	3
SOC 08375	Sociological Research Methods	3

Approved Internship/Field Experience *3 s.h.

* 3 s.h. are required, 6 s.h. are recommended (select in consultation with academic advisor)

EDPA 02490	Public Service Internship	3
SOC 08494	Sociology Field Experience	3
LAWJ 05356	Criminal Justice Internship	3
DPEM 43495	Internship in Disaster Preparedness and Emergency Management	3

Total Required Credits for the Program 121 s.h. (30 Core)

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Academic Advisor Contact Information

Laurie Baker
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856.256.5793
baker@rowan.edu

Bachelor of Arts in Human Services (B.A.)

The Bachelor of Arts in Human Services is an academic program, unique to the Camden Campus that will prepare individuals to serve as human services providers, health educators, social service professionals, and community service specialists. The curriculum is designed to combine theory and research with application in experiential learning settings in the urban community and social service agencies located in the City of Camden, New Jersey. The Human Services program is designed for students who are interested in studying and working with individuals of diverse populations in urban settings.

Program Requirements

The Human Services program consists of 120 S.H. of coursework, including 39 S.H. of core requirements, 9 S.H. of which involve direct field experience. In addition to the core requirements, general education requirements, and electives, students will choose one of the following three concentrations, each consisting of a single required 3 S.H. course and 6 S.H. of electives relevant to each concentration:

- Clinical Services Concentration- 9 S.H.
- Administrative Concentration- 9 S.H.
- Criminal Justice Concentration- 9 S.H.

Required Core Courses 39 s.h.

(s.h.: semester hours/credit hours)

HSRV 01100	Introduction to Human Services	3
SOC 08120	Introduction to Sociology	3
PSY 01107	Essentials of Psychology	3
PSY 03205	Intake and Interviewing Skills	3
SOC 08223	Sociology of Social Welfare	3
SOC 08332	Contemporary Sociological Theory	3
HSRV 08310	Research Methods for Human Services	3
HSRV 01320	Applied Ethics in Human Services	3
HSRV 01351	Field Experience in Human Services	9
SOC 08430	Case Management Intervention in Sociological Practice	3
HSRV 01400	Senior Seminar: Human Services- WI	3

Other Required Courses 9 s.h.

ANTH 02202	Cultural Anthropology	3
POSC 07110	American Government	3
STAT 02100	Elementary Statistics	3
or STAT 02260	Statistics I	

Total Required Credits for the Program 120 s.h. (39 Core)

Foundation Courses

*University standard for all undergraduate programs. 30 credits must be completed at Rowan.

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Completion of a Portfolio of work completed within the senior courses, including personal growth journaling and field experience processing.
- Completion of a field experience/placement and clinical/service hours.

Academic Advisor Contact Information
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Bachelor of Arts in Law & Justice Studies (B.A.)

The Bachelor of Arts in Law & Justice degree completion program is intended for students who have already completed their Associate's Degree (or a minimum of 24 overall credits) and want to pursue the Bachelor of Arts. The degree, offered through Rowan Global Learning & Partnerships and taking place both online and on the Rowan University Camden Campus, offers students solid academic preparation in the study of crime, law, and the criminal justice system with an interdisciplinary approach to coursework that enhances critical thinking, reasoning, writing, and logic skills. It prepares

students for professional careers in four major areas: law enforcement and security services, court services, corrections, and human services. Since many of the students who enter the program express an interest in preparation for graduate study and professional schools, the program also offers the rigorous preparation necessary to achieve such goals.

Program Requirements

Required Law & Justice Studies Courses 24 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
LAWJ 05175	Survey of Criminal Justice	3
LAWJ 05200	Introduction to Corrections	3
LAWJ 05255	Criminal Law	3
LAWJ 05356	Criminal Justice Internship I	3
LAWJ 05369	Theories of Crime and Criminality	3
LAWJ 05380	Criminal Justice Research	3
LAWJ 05401	Law & Human Rights	3
LAWJ 05469	Seminar in Law/Justice (Writing Intensive)	3

Law & Justice Studies Course Electives 12 s.h.

(s.h.: semester hours/credit hours)

Students may choose electives from the list of courses below or apply other approved Law & Justice elective courses.

Course #	Course Title	S.H.
LAWJ 05305	Law & Evidence	3
LAWJ 05361	Introduction to Juvenile Justice	3
LAWJ 05326	International Terrorism	3
LAWJ 05324	Sentencing and the Rights of the Convicted	3

General Education and Elective Courses (as completed or transferred) 84 s.h.

Total Required Credits for the Program 120 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Academic Advisor Contact Information
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Bachelor of Arts in Liberal Studies: Humanities/Social Science (B.A.)

The B.A. in Liberal Studies: Humanities/Social Science program is designed for those who possess at least 24 college credits and want to complete a bachelor's degree in a convenient setting. This quality liberal studies program offers students solid academic preparation and is ideal for working adults who need a bachelor's degree in order to pursue a career or advance in their current position.

Rowan University requires the completion of 120 semester hours of approved general education and major coursework in order to graduate with a bachelor's degree. The Bachelor of Arts in Liberal Studies: Humanities/Social Science program is a part-time, accelerated program that provides students with 39 of the required semester hours in approximately eight consecutive semesters. Students will work with their academic advisor to evaluate eligible transfer credits, and determine their entire degree program and mode-of-delivery options.

Focus Area Options

Through Rowan Global, the following focus area option is possible:

- Philosophy & Religion and Public Relations (PR) in the Workplace

Program Requirements for the Focus Areas in Philosophy & Religion and PR in the Workplace

Required Liberal Studies Core Courses 39 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
ADV 04330	Introduction to Advertising	3
ADV 04360	Integrated Marketing Communication	3
PHIL 09120	Introduction to Philosophy	3
PHIL 09241	Philosophy & Society - WI	3
PHIL 09325	American Philosophy	3
PHIL 09328	Philosophy & Gender	3
PHRE 11490	Senior Seminar in Philosophy & Religion	3
PR 06301	Basic PR Writing	3
PR 06310	Intro to PR/Advertising Research	3
PR 06350	Introduction to PR	3
PR 99362	Public Opinion	3
REL 10200	Religions of the World	3
REL 10210	Religion in America	3

General Education and Elective Courses 81 s.h.

Total Required Credits for the Program 120 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Academic Advisor Contact Information
Laurie Baker
Enterprise Center, 338
856.256.5793
baker@rowan.edu

Bachelor of Arts in Sociology (B.A.)

The major in Sociology consists of 120 semester hours. Upon completing all requirements in their program, students majoring in sociology receive a Bachelor of Arts degree in Sociology. The major program aims to develop students' competence in understanding and analyzing the effects of social factors across all levels of society. The Bachelor of Arts in Sociology overall affords its majors a strong Liberal Arts undergraduate degree as well as a rich foundation for most graduate degree programs.

Students in the sociology major now have the option of taking the General Program or the Applied Concentration for the degree. The General Program (2208) allows students flexibility in choosing which lower and upper level electives will be part of their program. It consists of a total of 33 semester hours. The Concentration in Applied Sociology (2209) consists of 36 semester hours, with students taking fewer Free Electives than in the General Program. The concentration focuses specifically on the analysis and treatment of social problems, the assessment of community based needs and practices, and the development and evaluation of strategies for positive social change. It provides a sound foundation for pursuing careers in human and community service industries.

Rowan University requires the completion of 120 semester hours of approved general education, Rowan Experience, and major coursework in order to graduate with a bachelor's degree. The Bachelor of Arts in Sociology degree completion program is a full or part-time program that provides students with 33-36 of the required semester hours.

Sociology Major Courses

Required Courses for the General Program 33 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
SOC 08120	Introduction to Sociology	3
SOC 08331	Classical Sociological Theory (upper level)	3
SOC 08375	Sociological Research Methods (upper level)	3
SOC 08376	Social Statistics (upper level)	3

SOC 08425	Senior Seminar (upper level)	3
	Sociology Choice (any level)	3
	Sociology Choice (any level)	3
	Sociology Choice (any level)	3
	Sociology Choice (any level)	3
	Sociology Choice (300-400 level)	3
	Sociology Choice (300-400 level)	3

Required Courses for the Applied Concentration 36 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
SOC 08120	Introduction to Sociology	3
SOC 08221	Social Problems	3
SOC 08331	Classical Sociological Theory	3
SOC 08375	Sociological Research Methods	3
SOC 08376	Social Statistics	3
SOC 08425	Senior Seminar	3
SOC 08494	Field Experience in Sociology	3
SOC 08339	Sociological Practice	3
	Sociology Choice (any level)	3
	Sociology Choice (Practice Bank)	3
	Sociology Choice (Applied Bank)	3
	Sociology Choice (Concentration Bank)	3

Total Required Credits for the Program 120 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Academic Advisor Contact Information
Laurie Baker
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856-256-5793
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Bachelor of General Studies (BGS)

Rowan University is proud to offer students another option to complete a Bachelor's degree. The Bachelor of General Studies (BGS) degree completion program may be the best route to a degree for some students. BGS students:

- Achieve a well-rounded and rigorous liberal arts education in a degree program that is tailored to individual needs;
- Concentrate on a disciplinary or interdisciplinary academic focus area more flexible than a traditional major;
- Collaborate with the program coordinator and advisor to ensure achievement of program and individual goals;
- Actively prepare for a future career as part of the degree requirements.

Program Requirements

Rowan University requires the completion of 120 semester hours (30 s.h. must be at Rowan University) of approved general education and major coursework in order to graduate with a bachelor's degree.

The following courses make up the Bachelor of General Studies program:

Required Courses: 120–126 semester hours (s.h.)

- General Education & Rowan Experience Courses: 42 s.h.
- Focus Area Courses: 18–24 s.h. (9 s.h. must be at the 300–400 level)
- Elective Courses: 57 s.h. (9 s.h. must be at the 300–400 level)
- BGS Portfolio Requirement: 1 s.h.
- BGS Career Development Course: 2 s.h.

Required Courses 3 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
INTR 01488	Career Planning & Development	2
INTR 01499	Bachelor of General Studies Portfolio	1

Total Required Credits for the Program 120 s.h.

Foundation Courses

Admission to the Bachelor of General Studies program is available to matriculated students who have earned a minimum of 75 credits who require a degree completion program. Successful applicants must be currently matriculated at Rowan; have 45 credits or fewer to complete toward a degree; be transferring from a declared major and provide evidence that they have attempted to make progress in the major; demonstrate that the BGS degree is the best option for them.

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

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College of Science & Mathematics

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Mission

The College of Science and Mathematics builds on the foundation of a liberal education to provide graduate programs that prepare students for professional positions, enhance skills needed in current careers, and provide training needed for continuing study in doctoral programs. Committed to excellence in instruction and scholarship, its disciplines promote rigorous inquiry, analytical and integrative reasoning and decision making skills.

In addition to the programs listed below, the College supports graduate programs in the College of Education. The various curricula in the College combine the richness of science and mathematical theories and traditions with applications for the workplace in the new millennium.

The College of Science and Mathematics affirms the natural sciences, behavioral sciences, and mathematics as core components of liberal education and the foundation of professional preparation. The College is committed to excellence in instruction, research, and scholarship. Its disciplines promote extensive interaction between faculty and students, attention to individual development of critical and creative thinking, the building of interdisciplinary communities through partnerships both internal and external, and the development of new knowledge through research and creative activities. The College plays an essential role in Rowan's mission: to educate students who remain lifelong learners and ethically responsible citizens, sensitive to cultural and ethnic diversity and engaged in advancing our global society.

Departments

The departments in the College are: Biological Sciences, Molecular & Cellular Biosciences, Chemistry & Biochemistry, Computer Science, Mathematics, Physics & Astronomy, and Psychology. (Not all departments offer programs through the Division of Global Learning & Partnerships.)

Programs Offered

All programs offered are listed below in order of degree/program type and then in alphabetical order by program name. Details about each program are then listed within the catalog in the same order. For the most up-to-date information regarding mode of delivery options for your program of interest, please visit www.rowanu.com/programs .

DOCTORAL DEGREE

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Doctor of Philosophy in Clinical Psychology	Face-to-face at Glassboro campus	PHD-CLINPSY/D200	Full-time	107

MASTER'S DEGREES

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Master of Arts in Applied Behavior Analysis	Face-to-face at Glassboro campus	MA- APPLBEH/G222	Both (however, no more than 9 credits/semester)	45
Master of Arts in Clinical Mental Health Counseling	Face-to-face at Glassboro campus	MA- MNTHLTH/G824	Full-time	60
Master of Arts in Mathematics	Face-to-face at Glassboro campus	MA- MATH/G701	Both	30
Master of Science in Bioinformatics	Face-to-face at Glassboro campus	MS-BINF/G499	Both	30
Master of Science in Computer Science	Face-to-face at Glassboro campus	MS- CS/G704	Both	30
Master of Science in Data Analytics	Face-to-face/Glassboro campus	MS-DATANALY/G705	Part-time	30
		Concentration Name/Code		
		Health Data Analytics/P720		
Master of Science in Pharmaceutical Science	Face-to-face at Glassboro campus	MS-PHARMASCI/G301	Both	31
Master of Arts in School Psychology (in conjunction with College of Education)	Face-to-face at Glassboro campus	MA-SCHPSYCH/G822	Both	34

CERTIFICATES OF ADVANCED GRADUATE STUDY (NON-DEGREE)

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Certificate of Advanced Graduate Study in Applied Behavior Analysis	Face-to-face at Glassboro campus	CAG- APPLBEH/G212	Part-time	18
Certificate of Advanced Graduate Study in Clinical Mental Health Counseling	Face-to-face at Glassboro campus	CAG- MNTHLTH/G211	Part-time	12

CERTIFICATES OF GRADUATE STUDY (NON-DEGREE)

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Certificate of Graduate Study in Computational Data Analytics	Face-to-face at Glassboro campus	COG- COMPDATA/G136	Part-time	12
Certificate of Graduate Study in Cyber Security	Face-to-face at Glassboro campus	COG- CYBERSEC/G137	Part-time	12
Certificate of Graduate Study in Health Data Management	Face-to-face at Glassboro campus	COG- HLTHDMGMT/G135	Part-time	12
Certificate of Graduate Study in Networks	Face-to-face at Glassboro campus	COG -NETWORKS/G128	Part-time	12

Certificate of Graduate Study in Software Engineering	Face-to-face at Glassboro campus	COG- SFTWENG/G129	Part-time	12
Certificate of Graduate Study in Web Development	Face-to-face at Glassboro campus	COG- WEBDEV/G130	Part-time	12

POST-BACCALAUREATE PROGRAMS (NON-DEGREE)

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Post-Baccalaureate Certificate in Applied Behavior Analysis	Face-to-face at Glassboro campus	CRT- APPLBEH/A122	Both	12
Post-Baccalaureate Certificate in Pre-Health Studies	Face-to-face at Glassboro campus	CRT-PREHLTST/9835	Both	32

UNDERGRADUATE DEGREE COMPLETION PROGRAMS

(These programs lead to Bachelor's degrees. They are offered through the Division of Global Learning & Partnerships, but official course descriptions and more about the program as a whole are included in Rowan's Undergraduate Catalog: www.rowan.edu/catalogs .)

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Bachelor of Arts in Psychology	Online	BA-PSY/2000	Both	120

* courses in this program may count toward the M.Ed. in Teacher Leadership.

Admissions

For the most up-to-date information regarding admission requirements, entry points, and application deadlines, please visit www.rowanu.com/programs . Click on your program of interest to be connected to program and admission details.

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Doctoral Program

Doctor of Philosophy in Clinical Psychology (Ph.D.)

The Rowan University Doctor of Philosophy in Clinical Psychology follows a scientist-practitioner model featuring personalized guidance from faculty advisors in conducting high-quality original research projects. The program's emphasis on integrated primary care and health psychology prepares students for research and practice in health care settings.

Distinguishing features of the program include a focus on primary care and health psychology as well as highly valued empiricism and the use of evidence-based assessment/treatment techniques. Students in their second year of the program will complete clinical rotations in the Rowan University Wellness Center as part of both the mental and physical health programs. There is also the opportunity for interdisciplinary collaborations with Cooper Medical School of Rowan University, Rowan School of Osteopathic Medicine, and the M.D. Anderson Cancer Center. The Rowan University Department of Clinical Psychology is committed to bringing together students and faculty from diverse backgrounds and emphasizes individual differences as well as interconnectedness between biological, psychological, and sociocultural factors.

The Rowan University Doctor of Philosophy in Clinical Psychology is a full-time program that requires the completion of 107 semester hours over four years plus a one-year clinical internship. Classes are (primarily) held during the day. Students will be simultaneously admitted to both the Master of Arts and Doctor of Philosophy in Clinical Psychology programs and expected to complete requirements for both degrees. While this newly developed program is not currently eligible for APA Accreditation because APA accreditation requires that students be enrolled in each year of the program, the curriculum content is consistent with the American Psychological Association's (APA) Accreditation Standards. Additionally, these standards are consistent with requirements for licensure as a Psychologist in NJ as well as nationwide.

Program Requirements

The coursework for the Rowan University Doctor of Philosophy in Clinical Psychology has been designed and sequenced in a way that will allow students to develop increasingly complex and cumulative knowledge over the course of their training. Additionally, practicum training will be sequenced in a way that allows students to attain increasingly complex clinical competencies. Students will receive individual and/or group supervision from faculty and/or external supervisors and will also be part of vertical supervision teams. The following courses make up the Doctor of Philosophy in Clinical Psychology program.

Required Courses — 36 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
PSY 09700	Human Development	3
PSY 10630	Biological Bases of Behavior	3
PSY 05621	Social Issues in Health and Wellness	3
PSY 03830	Health Psychology	3
PSY 10780	Behavioral Pharmacology and Psychopharmacology	3
PSY 02706	Research Methods	3
PSY 02630	Experimental Foundations of Behavior Therapy	3
PSY 07714	Statistics for Clinical Psychology I: Univariate	3
PSY 07740	Statistics for Clinical Psychology II: Multivariate	3
PSY 03812	Thesis Research I	1
PSY 03814	Thesis Research II	1
PSY 01850	Dissertation Research I	1
PSY 01852	Dissertation Research II	1
PSY 01853	Dissertation Research III	1
PSY 01854	Dissertation Research IV (may be repeated as needed)	1
PSY 01750	Multicultural Perspectives	3

Clinical Core Courses — 59 s.h.

Course #	Course Title	S.H.
PSY 03701	Assessment I: Psychometrics & Cognitive Testing	3
PSY 03710	Intervention I: Foundational Clinical Skills	3
PSY 03740	Professional, Ethical & Legal Issues in Clinical Psychology	3
PSY 03704	Assessment II: Individual Differences and Personality	3
PSY 03712	Intervention II: Evidence-Based Interventions with Adults	3
PSY 01623	Psychopathology II: Conceptualization and Etiology	3
PSY 03838	Health Care Models and Service Delivery	3
PSY 03721	Professional Proseminar I	1
PSY 03722	Professional Proseminal II	1
PSY 03742	Introductory Practicum	3
PSY 03744	Foundation Practicum	9
PSY 03723	Professional Proseminar III	1
PSY 03724	Professional Proseminar IV	1
PSY 03725	Professional Proseminar V	1
PSY 03726	Professional Proseminar VI	1
PSY 03727	Professional Proseminar VII	1
PSY 03728	Professional Proseminar VIII	1

PSY 03800	Intermediate Practicum	9
PSY 03820	Advanced Practicum	6
PSY 03860	Internship	0

Elective Courses 12 s.h.

Course #	Course Title	S.H.
PSY 03715	Intervention III: Evidence-Based Interventions with Children and Adolescents	3
PSY 03832	Behavioral Medicine	3
PSY 03835	Pediatric Psychology	3
PSY 03717	Advanced Cognitive-Behavioral Assessment and Therapy	3
PSY 03902	Advanced Seminar in Evidence-Based Practice	3
PSY 03834	Neuropsychological Assessment	3
PSY 03900	Advanced Seminar in Health Psychology and Behavioral Medicine	3

Total Required Credits for the Program 107 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements:

- Successful completion of internship
- Successful completion and defense of doctoral dissertation
- Additional benchmarks regarding professional, personal, and emotional competencies are delineated in the student handbook for the program.

Minimum Required Grades and Cumulative GPA

The **Doctor of Philosophy in Clinical Psychology** is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Georita Frierson
Robinson Hall
856.256.4500 ext. 3171
clinicalpsych@rowan.edu

Master's Degrees

Master of Arts in Applied Behavior Analysis (M.A.)

Applied behavior analysis (ABA) is one of the most effective and frequently utilized treatment approaches for individuals with special needs, including those with developmental disabilities and autism. ABA involves the use of well-established and empirically supported principles to assess and treat problem behavior and to facilitate skill acquisition. In southern NJ, over 20,000 children in special education programs have been classified with conditions that behavior analysts regularly treat. The Master of Arts in Applied Behavior Analysis meets both the degree and coursework requirements for certification as a Board Certified Behavior Analyst (BCBA). To be eligible to become a BCBA, the BACB also requires 1500 hours of practice in ABA supervised by a BCBA. For more information, see the BACB standards at www.bacb.com.

Program Requirements

Required Courses 45 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
I. Fundamental Behavioral Analytic Knowledge & Skill (15 credits)		
PSY 01500	Professional Skills for Behavior Analysts	3
PSY 01510	History, Philosophy & Conceptual Foundations of Behavior Analysis	3
PSY 02500	Basic Principles of Behavior	3
PSY 02610	Applied Behavior Analysis: Behavior Change Procedures	3

PSY 02620	Behavioral Assessment & Functional Analysis	3
II. Understanding Populations & Contexts (3 credits)		
PSY 03624	Psychopathology of Childhood & Adolescence	3
III. Advanced Applied Behavior Analysis (9 credits)		
PSY 02661	Special Topics in ABA	3
PSY 02670	Ethical & Legal Issues in ABA	3
PSY 02680	Advanced Practice in ABA	3
IV. Experience (9 credits)		
PSY 01550	Clinical Research Practicum in Applied Behavior Analysis	3
PSY 01660	Practicum in Applied Behavior Analysis I	3
PSY 01661	Practicum in Applied Behavior Analysis II	3
V. Research (9 credits)		
PSY 02510	Research Methods in Behavior Analysis	3
PSY 02660	Research Project in ABA	6
Total Required Credits for the Program		45 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

1. Successful completion of first two courses (PSY 01500 & PSY 01510)
2. Successful completion of oral and written comprehensive exams
3. Successful completion of written research proposal and verbal defense
4. Successful completion of written research study and verbal defense
5. Meet professional requirements each semester

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks' timing and assessments will be shared with the student throughout the program by the Academic Advisor.*

Benchmark I:

- *Timing*: Occurs after the completion of 6 prescribed credits from PSY01.500 and PSY01.510 (Phase I)
- *Requirements*: Candidates must successfully complete all Phase I courses with a grade of B or better for full matriculation into the program.
- *Options*: If the student does not successfully pass the benchmark, then the student is invited to re-take the necessary coursework once more. If still unsuccessful, student will not be matriculated into the program.

Benchmark II:

- *Timing*: Occurs after the completion of 12 prescribed credits PSY 02500, PSY 02510, PSY 02610 and PSY 02620 (Phase II)
- *Requirements*: Candidates must successfully complete all Phase II courses by as evidenced by grades of B or better in courses and passing comprehensive written and oral examinations with a score of 70 or better in each section before taking any additional coursework.
- *Options*: If the student does not successfully pass the benchmark, then the student is invited to re-take any necessary coursework and/or the written/oral examination once more. If still unsuccessful, student will be dismissed from the program.

Benchmark III:

- *Timing*: Occurs after the completion of prescribed credits Phase II credits (PSY 02500, PSY 02510, PSY 02610 and PSY 02620) and the completion of PSY 01550 Clinical Research Practicum (Phase III)
- *Requirements*: Candidates must submit and verbally defend a written research proposal (PSY 02660) to the research advisor which includes a review of the relevant research literature, a statement of the research question and rationale for the proposed study, methods section including the experimental procedure and design to be used, hypothesized results section with related figure(s) and tables including how the data will be analyzed, discussion of the hypothesized data and potential implications, and reference section. This research proposal will be completed in the time frame of one semester. The research committee and advisor will evaluate the proposal regarding the scholarly contribution to the related literature, methodology, APA format, and grammar. The research advisor must approve the final research proposal.
- *Options*: If the student does not complete and defend the proposal within the one semester time-frame, the student will be required to re-enroll in PSY 02660 until the proposal is completed and defended. If the student does not successfully pass the benchmark, then the student may be provided an opportunity to re-take the research project course (PSY 02660), and complete a different research project or the student may be dismissed from the program.

Benchmark IV:

- *Timing*: Occurs after the completion of Benchmark III (Phase IV)
- *Requirements*: Candidates must submit and verbally defend manuscript of an original research study (PSY 02660), including Rowan University IRB approval, and original data collected by the student. The manuscript includes an appropriate introduction setting the current research project in the context of the existing literature, a comprehensive methods section including the experimental procedure and experimental design that was used, results section with related figure(s) and tables including how the data were analyzed and summarized, discussion of the data including limitations and areas for future research, and reference section. This manuscript will be completed within the time frame of one semester. The research committee and advisor will evaluate the final paper regarding the scholarly contribution to the related literature, methodology, APA format, and grammar. The research advisor must approve the final version of the manuscript.
- *Options*: If the student does not complete and defend the research study within the one semester time-frame, the student will be required to re-enroll in PSY 02660 until the research study is completed and defended. If the student does not successfully pass the benchmark, then the student may be provided an opportunity to re-take the research project course (PSY 02660) to collect additional data and/or make changes to the experimental design and/or methods/procedures, or to complete a different research project or the student may be dismissed from the program.

Benchmark V:

- *Timing*: Occurs at the conclusion of each semester
- *Requirements*: Candidates must meet all the requirements of the profession in terms of professional demeanor, client interaction, and ethical behavior as determined by the faculty members and off-site clinical supervisors.
- *Options*: If the student does not successfully pass the benchmark, then they may be provided a remediation plan for professional behavior by the faculty, or they may be dismissed from the program.

Minimum Required Grades and Cumulative GPA

The Master of Arts in Applied Behavior Analysis is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Master of Arts in Clinical Mental Health Counseling (M.A.)

The focus of the Master of Arts in Clinical Mental Health Counseling program is on preparing students to become mental health counselors who are involved in the prevention and treatment of a wide variety of mental health problems. Many of our students apply for licensure as Licensed Associate Counselors (LAC), and then as Licensed Professional Counselors (LPC) in New Jersey and other states. With the master's degree completion, some students choose to seek research positions or pursue doctoral degrees. As such, students will receive comprehensive background in counseling theories, empirical research findings, counseling skills, and treatment approaches necessary for the effective delivery of services in a variety of mental health settings. The program places a particular emphasis upon delivering strong skills in differential diagnosis, conceptualization, development of treatment plans, and the use of evidence-based practices, with strong studies in ethics and multicultural issues.

As part of their program, students are required to complete at least 600 hours of supervised practice in a mental health setting and complete the Counselor Preparation Comprehensive Examination (CPCE). Students may elect to substitute the CPCE with the National Counselor Examination (NCE). The master's program consists of 60 credit hours of graduate work, which is the educational requirement for the LAC/LPC. Students may also become involved in faculty labs, on a volunteer basis. This is valuable in gaining research experience and in further connecting with faculty.

Program Requirements

Required Courses 60 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
PSY 09595	Introduction to Counseling: Development of Basic Skills	3
PSY 01564	Counseling Theory & Techniques I	3
PSY 01566	Counseling Theory & Techniques II	3
PSY 01572	Research Methods & Statistics in Counseling Psychology I: Basics	3

PSY 01574	Research Methods & Statistics in Counseling Psychology II: Applied	3
PSY 01612	Group Counseling & Psychotherapy	3
PSY 01615	Professional Pro-seminar	1
PSY 01620	Legal, Ethical & Professional Issues in Counseling	3
PSY 01623	Psychopathology I: Diagnosis & Epidemiology	3
PSY 01624	Psychopathology II: Conceptualization & Etiology	3
PSY 01650	Practicum in Counseling	8
PSY 01685	Masters Thesis I*	3
PSY 01687	Masters Thesis II*	3
PSY 05610	Social & Cultural Diversity	3
PSY 05652	Advanced Seminar in Clinical Practice**	9
PSY 06625	Assessment I: Psychometrics, Evaluation, & Treatment Planning	3
PSY 06626	Assessment II: Assessment of Career/Vocational Interests, Treatments, & Programs	3
PSY 09560	Lifespan Development	3
PSY 10610	Psychopharmacology & Biological Bases of Behavior	3

* Note: The Thesis Track is available on an extremely limited basis and only offered in rare circumstances. However, there are limited opportunities for students to be involved in a research lab. Contact the program coordinator for additional details.

**Topics for the Advanced Seminar in Clinical Practice rotate. All students take 9 elective credits. If the Thesis Track becomes available (in rare circumstances), 6 of these credits will be replaced with Master's Thesis I and II.

Total Required Credits for the Program 60 s.h.

Foundation Courses

Students must have successfully completed at least 12 credits of undergraduate-level Psychology courses at an accredited institution, including one course in Abnormal Psychology, one course in Statistics, and one course in Research Methods.

Graduation/Exit, Benchmark, and/or Thesis Requirements

- All students are required to take the Counselor Preparation Comprehensive Examination (CPCE) during their second year in the program (or the equivalent for students who are part-time). Students may replace this exam with the National Counselor Examination (NCE). Students are responsible for the cost of the selected exam.

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks' timing and assessments will be shared with the student throughout the program by the Program Coordinator.*

Benchmark I:

- *Timing*: Occurs before, or at, the conclusion of each semester
- *Requirements*: Candidates must meet all of the requirements of the profession in terms of professional demeanor, client and faculty interaction, and ethical behavior, as determined by the Program Coordinator, Thesis Advisors (where indicated), Faculty Members and both on- and off-site Practicum Supervisors.
- *Options*: If a student does not successfully pass the benchmark, the student may be provided a remediation plan for professional behavior by the Program Coordinator, or may be dismissed from the program.

Benchmark II:

- *Timing*: Occurs after the completion of 28 prescribed credits (Year I-including Summer)
- *Requirements*: Candidates must successfully complete all Year I courses (including Summer) and secure a practicum location. In addition, students in the Thesis Track must also formulate a suitable thesis topic (with approval of their Thesis Advisors) by the end of the Summer term of their first year. Students need to discuss details with their Thesis Advisors and the Program Coordinator. As noted above, Thesis Track, if available, is only available on an extremely limited basis.
- *Options*: If a student does not successfully pass the benchmark, the student may be invited to re-take any necessary coursework, dependent upon review of overall academic achievement and personal conduct. The student may be advised on the possibility of extensions regarding timing of thesis formulation and practicum placement, dependent upon overall progress and movement toward these goals.

Benchmark III:

- *Timing*: Occurs after the completion of 60 prescribed credits (Year II)
- *Requirements*: Candidates in the Thesis Track must successfully defend their Master's Theses (including Master's Thesis II course). Candidates in the Advanced Clinical Track must successfully complete the additional coursework (6 credits of Advanced Clinical Seminar). Candidates in both tracks must complete 600 hours of practicum experience with satisfactory supervisory evaluations.
- *Options*: If a student does not successfully pass the benchmark, the student is invited to re-take any necessary coursework (including Practicum), and/or resubmit the Master's Thesis and defense. If remedial efforts are still unsuccessful, the student may be dismissed from the program.

Minimum Required Grades and Cumulative GPA

The Master of Arts in Clinical Mental Health Counseling is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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abacoursework@rowan.edu

Master of Arts in Mathematics (M.A.)

The Master of Arts in Mathematics program will provide an opportunity for individuals to pursue advanced study in mathematics and to develop skills that can lead to success in today's technologically oriented society. Whether the goal involves applying mathematics to solve problems in business or industry, teaching in higher education or preparing for further graduate study in mathematics or related fields, this program enables each student to pursue a course of study that is appropriate for his or her interests.

The program includes two tracks.

- **General Mathematics**
- **Biomathematics**

Each has its own course and graduation exit requirements, as outlined in the chart below.

Rowan University undergraduates majoring in the Bachelor of Science in Mathematics can apply to the accelerated B.S./M.A. dual degree (4+1) program allowing them to earn both the Bachelor of Science and Master of Arts degrees in five years.

Program Requirements

Required CORE Courses for both General Math & Biomath Tracks — 9 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
MATH 01502	Linear Algebra and Matrix Theory	3
MATH 01505	Probability & Mathematical Statistics	3
MATH 01533	Graduate Seminar in Mathematics	3

General Mathematics Track — 9 s.h.

Course #	Course Title	S.H.
MATH 01510	Real Analysis I	3
MATH 01512	Complex Analysis I	3
MATH 01524	Abstract Algebra I	3

Restricted Electives — 3 s.h.

Course #	Course Title	S.H.
MATH 01511	Real Analysis II	3
MATH 01513	Complex Analysis II	3
MATH 01527	Abstract Algebra II	3

Elective Courses — 9 s.h.

Choose 9 s.h. in conjunction with the Academic Advisor.

Course #	Course Title	S.H.
MATH 01500	Foundations of Mathematics	3
MATH 01503	Number Theory	3
MATH 01504	Introduction to Mathematical Logic	3
MATH 01507	Differential Geometry	3
MATH 03511	Operations Research I	3
MATH 03512	Operations Research II	3
MATH 01515	Engineering Applications of Analysis	3
MATH 01520	Topics in Applied Mathematics	3
MATH 01521	Non-Linear Differential Equations	3
MATH 01522	History of Mathematics	3

MATH 01525	Modern Geometry	3
MATH 01526	Point Set Topology	3
MATH 01529	Numerical Analysis	3
MATH 03550	Topics in Discrete Mathematics	3

Biomathematics Track

Required		**12 s.h.**
Course #	**Course Title**	**S.H.**
MATH 03501	Mathematical Modeling for Biological Systems	3
STAT 02513	Applied Stochastic Processes	3
MATH 03525	Partial Differential Equations in Biomathematics	3
STAT 02510	Introduction to Statistical Data Analysis	3

Restricted Electives		3 s.h.
Course #	Course Title	S.H.
MATH TBD	Applied Epidemiology	3
MATH TBD	Special Topics in Biomathematics	3

Elective Courses 6 s.h.

Choose 6 s.h. in consultation with the Academic Advisor.

Course #	**Course Title**	**S.H.**
CS 01501	Essentials of Computer Science	3
CS 04548	Programming Languages: Theory, Implementation & Application	3
CS 07540	Advanced Design & Analysis of Algorithm	3
MATH 01521	Non-Linear Differential Equations	3
MATH 01520	Topics in Applied Mathematics	3
MATH 01529	Numerical Analysis	3
STAT 02514	Decision Analysis	3
MATH TBD	Introduction to Bayesian Science	3
STAT 02515	Applied Multivariate Data Analysis	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- For General Mathematics track: Students must successfully complete all course requirements and pass a comprehensive examination given by the Department of Mathematics.
- For Biomathematics track: Students must successfully complete all course requirements and a final project or thesis.

Minimum Required Grades and Cumulative GPA

The Master of Arts in Mathematics is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Dex Whittinghill
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Master of Science in Bioinformatics (M.S.)

The Master of Science in Bioinformatics program produces highly trained students who are prepared to directly contribute to the pharmaceutical, biological and/or biomedical research fields. Bioinformatics is a multidisciplinary field that develops and uses computational tools to investigate and analyze complex biological, biomedical, and biochemical systems. The goal of the field is to analyze large biological data sets generated in the lab or clinic for ways to enhance our understanding of biology and to develop better diagnostic, prognostic and treatment methods. A major goal of our program is to provide hands-on experience so students use the skills they learn towards real-world research questions. This includes advanced

training in theory and laboratory settings to allow students to diversify into other biomedical research fields.

This program includes 3 concentration areas for students to choose from:

- **Biological Sciences:** Topics such as genomics, transcriptomics, evolutionary genetics, phylogenetics
- **Biochemistry:** Topics such as molecular dynamics, biophysics, structural prediction
- **Computer Science:** Including the practical and theoretical aspects of computational biology

Tracks

The program includes two tracks. Each has different course and graduation exit requirements which are outlined in the chart.

- **Thesis Track:** Students in the thesis track must take 12 additional credits of restricted electives and the 6-credit thesis sequence or 9 additional credits of restricted electives and the 9-credit thesis sequence.
- **Non-Thesis Track:** Students choosing the non-thesis track must take 18 additional credits of restricted electives, 6 credits of which must be classified as project intensive.

Rowan University undergraduates majoring in the Bachelor of Science in Bioinformatics program can apply to the accelerated Bachelor of Science/Master of Science dual degree (4+1) program, allowing them to earn both the Bachelor of Science and Master of Science degrees in five years.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
BINF 07500	Bioinformatics Seminar	3
BIOL 05555	Bioinformatics: Biological Applications	3
CHEM 07595	Bioinformatics: Biochemical Applications	3
CS 07595	Advanced Topics in Computer Science	3

Concentration Area Courses 9-18 s.h.

Choose 9-12 s.h. (thesis track) or 18 s.h. (non-thesis track) from the following depending on focus area selected:

Biological Sciences Focus Area

Course #	Course Title	S.H.
BIOL TBD	Evolution	4
BIOL TBD	Environmental Microbiology	4
BIOL TBD	Developmental Biology	4
BIOL TBD	Cell Biology	4
BIOL TBD	Special Topics in Biology	4
BIOL TBD	Microbiology	4
BIOL TBD	Ecology	4
BIOL TBD	Human Genetics	4
BIOL TBD	Molecular Genetics	4

Biochemistry Focus Area

Course #	Course Title	S.H.
CHEM 07531	Special Topics in Biochemistry	3
CHEM 07557	Chemical Biology	3
CHEM 07560	Advanced Biochemistry Lecture	3
CHEM 07568	Medicinal Chemistry	3
CHEM 07570	Organic Spectroscopy	3
CHEM 09510	Instrument Analysis	3

Computer Science Focus Area

Course #	Course Title	S.H.
CS 04530	Advanced Database Systems: Theory and Programming	3
CS 07523	Advanced Software Engineering	3
CS 07540	Advanced Design and Analysis of Algorithms	3
CS 07570	Information Visualization	3
MIS 02599	Special Topics in Management Information Systems	3

Required Thesis Track Courses 9 s.h.

Course #	Course Title	S.H.
BINF 07501	Master's Research I	3
BINF 07502	Master's Research II	3

BINF 07503	Master's Research III	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

Applicants must have successfully completed the following courses at an accredited institution: Calculus I, Statistics I, and at least two semesters of Chemistry, Physics, Biology, and/or Computer Science. To prepare students for focus area electives, students may be advised to take one or more undergraduate courses in their concentration area in consultation with the Program Advisor.

Graduation/Exit, Benchmark, and/or Thesis Requirements

All students must conduct a formal seminar presenting their research, or about a focus area topic. If thesis track is chosen, students must successfully complete and defend a Master's Thesis based on work done in their coursework with a Research Advisor.

Minimum Required Grades and Cumulative GPA

The **Master of Science in Bioinformatics** is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Contact Information
bioinformatics@rowan.edu

Master of Science in Computer Science (M.S.)

The Master of Science in Computer Science will provide individuals with the opportunity to acquire an excellent graduate level education in Computer Science that prepares them to work in a variety of computer related fields, including education, industry, research, business, and government

The Master of Science in Computer Science is a 30 credit-hour program with an optional thesis track. All students must complete a 12-credit core of required courses.

Tracks

The program includes two tracks. Each has different course and graduation exit requirements which are outlined in the chart.

- **Thesis Track:** Students in the thesis track must take 12 additional credits of restricted electives and the 6-credit thesis sequence or 9 additional credits of restricted electives and the 9-credit thesis sequence.
- **Non-Thesis Track:** Students choosing the non-thesis track must take 18 additional credits of restricted electives, 6 credits of which must be classified as project intensive.

Rowan University undergraduates majoring in the Bachelor of Science in Computer Science program can apply to the accelerated B.S./M.S. dual degree (4+1) program allowing them to earn both the Bachelor of Science and Master of Science degrees in five years.

Program Requirements

Core Courses 12 s.h.

(s.h.: semester hours/credit hours)

Choose four (4) from the following:

Course #	Course Title	S.H.
CS 04530	Advanced Database Systems: Theory & Programming	3
CS 04548	Programming Languages: Theory, Implementation & Application	3
CS 04560	Design & Implementation of Operating Systems	3
CS 04564	Compiler Design Theory	3
CS 06510	Computer Networks	3
CS 06520	Topics in Computer Architecture	3
CS 07522	Advanced Theory of Computing	3
CS 07523	Advanced Software Engineering	3
CS 07540	Advanced Design & Analysis of Algorithms	3
CS 07551	Advanced Cyber Security: Principles & Applications	3
CS 07552	Cryptography	3

Elective Courses 9-18 s.h.

Choose from the following and see note*

Course #	Course Title	S.H.
CS 01541	Bioinformatics - Advanced Computational Aspects	3
CS 04505	Advanced Web Programming	3
CS 04565	System Programming	3
CS 04570	Advanced Object Oriented Design	3
CS 04571	Advanced Topics in Mobile Programming	3
CS 06505	Wireless Networks & Systems	3
CS 06512	Network Security	3
CS 06515	Embedded Systems Programming	3
CS 07524	Agile Software Engineering	3
CS 07545	Advanced Robotics	3
CS 07550	Concepts in Artificial Intelligence	3
CS 07555	Natural Language Processing	3
CS 07556	Machine Learning	3
CS 07560	Computer Graphics	3
CS 07565	Computer Vision	3
CS 07570	Information Visualization	3
CS 07575	Advanced TCP/IP & Internet Protocols & Technologies	3
CS 07580	Computer Animation	3
CS 07590	Game Design & Development	3
CS 07595	Advanced Topics in Computer Science	3

***Note**: The courses above are just some of the electives available. Any core course (not already satisfying the 12 required credits) can also be taken as an elective. In addition, students can choose no more than 6 credits of approved graduate electives from graduate programs in the field of Electrical and Computer Engineering, Mathematics, Data Analytics, Bioinformatics, and Management Information Systems. Only 3 preapproved credits from the graduate program in Management Information Systems could be counted towards electives for a graduate degree in Computer Science. Before signing up for these classes please discuss and confirm all choices with your academic advisor.

Required Thesis Track Courses 6-9 s.h.

Choose from the following and see note* above.

Course #	Course Title	S.H.
CS 07530	Computer Science Thesis I	3
CS 07531	Computer Science Thesis II	3
CS 07532	Computer Science Thesis III *optional*	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

If thesis track is chosen, students must successfully complete and defend Master's Thesis.

Minimum Required Grades and Cumulative GPA

The Master of Science in Computer Science is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Master of Science in Data Analytics (M.S.)

The Master of Science in Data Analytics at Rowan University is designed for individuals with a Bachelor's degree in a STEM related field who are looking to expand their knowledge and opportunities in Data Science. The program has a strong background in Data Mining, Modeling, Statistical and Machine learning, but also includes a concentration in Health Data Analytics. The program is based on industry needs, as well as guidelines of the Commission on Accreditation for Health Informatics and information Management Education (CAHIIM) and of the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Students will be prepared to use algorithms, statistics, and technology to make informed decisions from massive amounts of data, to manage streamed data or data stored in massive data warehouses, and to visually analyze and present information. Courses are designed to provide expertise in the data sciences and train students to solve problems with complex sets of structured and unstructured data commonly found in any industry.

Program Requirements

The Master of Science in Data Analytics program consists of 11 courses and a total of 30 graduate semester hours (s.h.). Students may enroll in this program part-time or full-time.

Coursework

The following courses make up the Master of Science in Data Analytics program.

- **Required Courses:** 12 semester hours (s.h.)
- **Core Courses:** 12 semester hours (s.h.)
- **Elective Courses:** 6 semester hours (s.h.)

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
DA 02510	Visual Analytics	3
DA 02515	Data Warehousing	3
DA 02505	Data Mining I	3
STAT 02515	Applied Multivariate Data Analysis	3

Health Data Analytics Leading Concentration Courses 12 s.h.

Course #	Course Title	S.H.
DA 03510	Patient Data Understanding	3
DA 03505	Data Quality and Web/Text Mining	3
DA 01505	Data Analytics Capstone Practicum	4
DA 01510	Data Analytics Laboratory I	1
DA 01511	Data Analytics Laboratory II	1

Elective Courses 6 s.h.

Choose 6 s.h. from the following electives:

Course #	Course Title	S.H.
DA 03511	Patient Data Privacy & Ethics	3
DA 03520	Healthcare Management	3
STAT 02525	Design and Analysis of Experiments	3
CS 07570	Information Visualization	3
CS 07523	Advanced Software Engineering	3
DA 02605	Data Mining II	3
CS 07556	Machine Learning	3
ECE 09555	Advanced Topics in Pattern Recognition	3
STAT 02514	Decision Analysis	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

Applicants must have successfully completed the following courses (or their equivalents) at an accredited institution: Calculus II, Probability and Statistical Inference for Computing Systems, Linear Algebra, Introduction to Object-Oriented Programming or Computer Science and Programming, and Data Structures and Algorithms or Data Structures for Engineers.

Graduation/Exit, Benchmark, and/or Thesis Requirements

A 4 credit Capstone Practicum is required as part of the coursework.

Minimum Required Grades and Cumulative GPA

The Master of Science in Data Analytics is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Anthony Breitzman
Robinson Hall
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Breitzman@rowan.edu

Master's Degrees continued

Master of Science in Pharmaceutical Sciences (M.S.)

Pharmaceutical Sciences is a highly interdisciplinary field that involves the integration of concepts from organic chemistry, biochemistry, physiology, pharmacology, and molecular biology for the design and synthesis of drugs as well as for understanding the mechanism of drug action. Some of the primary goals of pharmaceutical sciences involve the discovery and development of novel drugs, efficient use of existing drugs, and lowering the cost of therapy employing cheaper protocols for manufacturing the drugs. The Master of Science (MS) in Pharmaceutical Sciences will provide the students with a solid foundation in basic chemistry and its applications in pharmaceutical sciences especially in the areas of research and development. Students will graduate with the necessary knowledge, skill sets, and training to effectively contribute to the development and characterization of new therapies for human disease and will be prepared for a career in in pharmaceutical or biomedical research.

Tracks

The program includes two tracks. Each has different course and graduation exit requirements which are outlined in the chart.

- **Thesis Track:** The thesis track is for students who desire to perform research as part of their graduate education. Thesis Track students enroll in 25 core s.h.(including 9 s.h. of research) and 6 restricted elective s.h. These students must enroll full-time. This track is a Fellows-Eligible program and the students are considered for a Graduate Fellowship award.
- **Non-Thesis Track:** Non-thesis Track students enroll in 16 core s.h. and 15 restricted elective s.h. These students may enroll either part-time or full-time.

Program Requirements

Required Courses 31 s.h.

(s.h.: semester hours/credit hours)

Non-Thesis Track 31s.h.

Course #	Course Title	S.H.
CHEM 05530	Special Topics in Chemistry	3
CHEM 05550	Advanced Seminar	1
CHEM 07560	Advanced Biochemistry Lecture	3
CHEM 07564	Advanced Organic Synthesis	3
CHEM 07590	General Aspects of Pharmacology	3
CHEM 07592	Advanced Pharmaceutical Chemistry	3

Choose an additional 15 s.h. from the list of Restricted Electives below.

Thesis Track 31 s.h.

Course #	Course Title	S.H.
CHEM 05550	Advanced Seminar	1
CHEM 07560	Advanced Biochemistry Lecture	3
or CHEM 07564	Advanced Organic Synthesis	
CHEM 07592	Advanced Pharmaceutical Chemistry	3
CHEM 09592	Pharmaceutical Techniques I	3
CHEM 09593	Pharmaceutical Techniques II	3
CHEM 09594	Pharmaceutical Techniques III	3
CHEM 09596	MS Thesis Research I	3
CHEM 09597	MS Thesis Research II	3
CHEM 09598	MS Thesis Research III	3

Choose an additional 6 s.h. from the list of Restricted Electives below.

Restricted Elective Courses

Course #	Course Title	S.H.
CHEM 06400	Advanced Inorganic Chemistry Lecture	3
CHEM 06401	Advanced Inorganic Chemistry Lab	3
CHEM 05530	Special Topics in Chemistry	3
CHEM 07557	Chemical Biology	3
CHEM 07561	Advanced Biochemistry Lab	3
CHEM 07565	Organic Reactions and Mechanisms	3
CHEM 07568	Medicinal Chemistry	3
CHEM 07570	Organic Spectroscopy	3
CHEM 07572	Advanced Organometallic Chemistry	3
CHEM 07590	General Aspects of Pharmacology	3
CHEM 08505	Advanced Biophysical Chemistry	3
CHEM 08510	Advanced Survey of Molecular Modeling Methods	3
CHEM 09510	Instrumental Analysis	3
CHEM 09522	Advanced Bioanalytical Chemistry	3

Total Required Credits for the Program 31 s.h.

Foundation Courses

Applicants must have successfully completed the following courses at an accredited institution prior to enrolling: 2 semesters of General Chemistry, and 2 semesters of Organic Chemistry. Additionally, it is recommended that students have taken as part of their undergraduate coursework: Physical Chemistry, Inorganic Chemistry, Analytical Chemistry, and Biochemistry.

Graduation/Exit, Benchmark, and/or Thesis Requirements

If thesis track is chosen, students must successfully complete and defend a Master's Thesis based on the original research performed under the guidance of their Graduate Research Advisor.

Minimum Required Grades and Cumulative GPA

The Master of Science in Pharmaceutical Sciences is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Subash Jonnalagadda
Science Hall
856.256.5452
mspharma@rowan.edu

Master of Arts in School Psychology (M.A.)

Completion of the Master of Arts (M.A.) in School Psychology provides a background in the theories, major knowledge, and methodological procedures in school psychology. This program (or its equivalent) is required for admission into the Educational Specialist (Ed.S.) program. The Master of Arts and Educational Specialist in School Psychology combine to meet the requirements for NJ Department of Education certification in School Psychology†.

Program Requirements

- Total semester hours required for program completion: 34 s.h.
- Thesis Requirement: No

Required Courses 34 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
COUN 26509	Group Counseling in Educational Settings	3
COUN 26526	Individual Counseling Procedures	3
PSY 22602	Applied Research: School Psychology	1

LDTC 18520	Neurological Bases of Educational Disorders	3
PSY 01570	Research Methodology and Statistics in Counseling Psych	3
PSY 03624	Psychopathology of Childhood & Adolescence	3
PSY 05610	Social and Cultural Diversity	3
or COUN 26525	Multicultural Counseling	
PSY 06533	Test & Measurements	3
PSY 22507	Development & Learning	3
or PSY 09560	Lifespan Development	
PSY 22600	Seminar I: App Res in School Psychology	3
PSY 22601	Seminar II: App Res in School Psychology	3
SPED 08555	Educational Psychology of the Exceptional Learner	3

Total Required Credits for the Program 34 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Successful completion of comprehensive exam

Minimum Required Grades and Cumulative GPA

The Master of Arts in School Psychology is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Certificates of Advanced Graduate Study (Non-degree)

Certificate of Advanced Graduate Study in Applied Behavior Analysis (CAGS)

Applied behavior analysis is one of the most frequently utilized treatment approaches for children and adults with special needs, including autism and developmental disabilities. The scope of practice of behavior analysts is the use of behavioral principles for the assessment and treatment of problem behaviors.

The Certificate of Advanced Graduate Study in Applied Behavior Analysis meets the coursework requirements for The Behavior Analyst Certification Board certification as a Board Certified Behavior Analyst (BCBA) for individuals with a Master's degree in behavior analysis, education, or psychology. Students applying to this program must possess a minimum of a Master's degree from an accredited university conferred in behavior analysis, education, or psychology. To be eligible to become a BCBA, the BACB also requires 1500 hours of independent fieldwork in ABA supervised by a BCBA in good standing. The Certificate of Advanced Graduate Study in ABA program does not provide the fieldwork component of this requirement. For more information, please visit the Behavior Analyst Board Certification, Inc. standards at www.bacb.com .

Program Requirements

Required Courses 18 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
PSY 02500	Basic Principles of Behavior	3
PSY 02510	Research Methods in Behavior Analysis	3
PSY 02610	Applied Behavior Analysis	3
PSY 02620	Behavioral Assessment & Functional Analysis	3
PSY 02670	Ethical & Legal Issues in ABA	3
PSY 02680	Advanced Practice in ABA	3

Total Required Credits for the Program 18 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

- Successful completion of oral and written comprehensive exams

Benchmarks: *Successful completion of all benchmarks is required for continuation in and graduation from the program. Details regarding benchmarks' timing and assessments will be shared with the student throughout the program by the Academic Advisor.*

Benchmark I:

- *Timing*: Occurs after the completion of 12 prescribed credits
- *Requirements*: Candidates must take and successfully pass the written and oral comprehensive exams with a score of 70 or better in each section.
- *Options*: If the student does not successfully pass the benchmark, then the student is able to re-take the exam once more. If still unsuccessful, student will be dismissed from the program.

Benchmark II:

- *Timing*: Occurs at the conclusion of each semester
- *Requirements*: Candidates must meet all the requirements of the profession in terms of professional demeanor, client interaction, and ethical behavior as determined by the faculty members and off-site clinical supervisors.
- *Options*: If the student does not successfully pass the benchmark, then the student may be provided a remediation plan for professional behavior by the faculty, or they may be dismissed from the program.

Minimum Required Grades and Cumulative GPA

The Certificate of Advanced Graduate Study in Applied Behavior Analysis is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Alexander Ward
Robinson Hall
warda81@rowan.edu

Certificate of Advanced Graduate Study in Clinical Mental Health Counseling (CAGS)

The Certificate of Advanced Graduate Study (CAGS) in Clinical Mental Health Counseling is intended for individuals who have already completed a master's degree in counseling (or related field) and need additional graduate coursework in order to have the sixty credits required for state licensure as Licensed Associate Counselors (LAC), followed by licensure (after completing necessary clinical experience) as Licensed Professional Counselors (LPC). Additionally, the program is available for mental health professionals in the community seeking to enhance their professional development. The courses within the certificate program are intended to be advanced courses within the clinical mental health profession that will allow students to improve their practical knowledge and skills.

Candidates seeking licensure are advised to read the regulations and requirements of the state's board where they intend to practice. The NJ Board of Licensed Professional Counselor regulations can be found at: http://www.njconsumeraffairs.gov/pc/Pages/default.aspx

Students typically complete 12 semester hours of graduate credits in classes taught by the Clinical Mental Health Counseling Program within the Department of Psychology in order to bring their total credits to the state requirement of 60. (Note: Some states may require that the master's degree have the words "counseling" or "counselor" in the title and/or be from a CACREP-accredited institution.

The 12 semester hours may be completed by taking a combination of courses within the Certificate of Advanced Graduate Study program. However, individual courses may have prerequisites associated with them. Given that some degrees total more or less than 48 credits, we occasionally accept individuals who request more (or less) than 12 semester hours and/or specific courses that are normally part of our own master's degree program. Any exceptions should be discussed with the Program Coordinator.

Students who simply need particular coursework (e.g., to obtain the sixty credits required for state licensure (LAC/LPC) and/or national certification/personal growth, etc.) may register for up to 9 graduate credits as non-matriculated students to meet their own individual needs. If additional credits are needed, students should matriculate in the program. Please note: It is highly recommended that all Certificate of Advanced Graduate Study students seek to matriculate.

Please consult with the Program Coordinator to discuss your enrollment needs.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Please meet with Certificate of Advanced Graduate Study Program Coordinator to develop a course sequence from the following potential courses (dependent on availability and prerequisites). Note: Some courses are offered on rotation, and additional elective courses may be added periodically.

Course #	Course Title	S.H.
PSY 01620	Legal, Ethical & Professional Issues in Counseling	3
PSY 01623	Psychopathology I: Diagnosis & Epidemiology	3
PSY 01624	Psychopathology II: Conceptualization & Etiology	3
PSY 01630	Family Systems & Family Therapy	3
PSY 05610	Social & Cultural Diversity	3
PSY 05652	Adv. Sem. in Clinical Practice: Evidence-Based Counseling for Children/Adolescents	3
PSY 05652	Adv. Sem. in Clinical Practice: Trauma	3
PSY 06625	Assessment I: Psychometrics, Evaluation & Treatment Planning	3
PSY 06626	Assessment II: Assessment of Career/Vocational Interests, Treatments & Programs	3
PSY 10610	Psychopharmacology & Biological Bases of Behavior	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

While the courses have no official pre-requisites, it is recommended that students speak with the Program Advisor to determine if beginner-level courses are needed to fully benefit from the courses.

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Advanced Graduate Study in Clinical Mental Health Counseling is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Ginean Crawford
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Certificates of Graduate Study (Non-degree)

Certificate of Graduate Study in Computational Data Analytics (COGS)

The huge amount of data generated daily is too complex and voluminous to be processed and analyzed by existing professionals and traditional methods. Across all industries, McKinsey Global Institute predicts that, "by 2018, the United States alone could face a shortage of 140,000 to 190,000 people with deep analytic skills as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions".

This certificate is intended for data-savvy analysts who wish to update their skills and make themselves more marketable in the workplace, for professionals with deep knowledge in their domain seeking to improve their productivity, as well as for others who desire to take advantage of Big Data opportunities. The students may be recent graduates from a wide range of disciplines such as Healthcare, Journalism, Bioinformatics, Astronomy, Computer Science, GIS, Law & Justice, Business, Biomedical Engineering, Biomedical Sciences, etc., or they may be more senior data-savvy professionals wishing to keep current in their field by learning the newest technologies.

Program Requirements

Required Courses 6 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
DA 02510	Visual Analytics	3
DA 02505	Data Mining I	3

Students select from two elective course below:

Elective Courses 6 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
STAT 02515	Applied Multivariate Data Analysis	3
STAT 02514	Decision Analysis	3
DA 02515	Data Warehousing	3
CS 07570	Information Visualization	3
CS 07523	Advanced Software Engineering	3
CS 07556	Machine Learning	3
DA 02605	Data Mining II	3
ECE 09555	Advanced Topics in Pattern Recognition	3
DA 03505	Data Quality and Web/Text Mining	3

Total Required Credits for the Program **12 s.h.**

Foundation Courses

Course #	Course Title	S.H.
MATH 01131	Calculus or equivalent	3
STAT 02290	Probability and Statistics or equivalent	3
MATH 01210	Linear Algebra or equivalent	3
CS 04113 OR CS 04103	Programming proficiency in at least one high-level language	3
CS 04222 OR CS 04225	Data Structures and Algorithms or equivalent	3

Graduation/Exit, Benchmark, and/or Thesis Requirements
None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Computational Data Analytics is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Anthony Breitzman
Robinson Hall
856.256.4500 ext. 3845
Breitzman@rowan.edu

Certificate of Graduate Study in Cyber Security (COGS)

The Certificate of Graduate Study in Cyber Security will allow students who are interested in pursuing careers in cyber security to develop the necessary expertise.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CS 06512	Network Security	3
CS 07551	Advanced Cyber Security: Principles & Applications	3
CS 07552	Advanced Cryptography	3
TBD	*Choose one course as a Restricted Elective in consultation with the Academic Advisor.*	3

Total Required Credits for the Program **12 s.h.**

Foundation Courses
None

Graduation/Exit, Benchmark, and/or Thesis Requirements
None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Cyber Security is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Gabriela Hristescu
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hristescu@rowan.edu

Certificate of Graduate Study in Health Data Management (COGS)

The Certificate of Graduate Study (COGS) in Health Data Management is intended for researchers, statisticians, or data analysts who would like to play a part in the healthcare industry. As a result of this program, students will be able to understand how to handle health-related data and design and analyze experiments as they relate to health data. Courses in this program may count toward Rowan's Master of Science in Data Analytics requirements.

Program Requirements

The Certificate of Graduate Study in Health Data Management consists of 12 s.h. of coursework

Coursework

The following courses are required to complete the COGS in Health Data Management

- **Required Courses:** 6 SH
- **Electives:** 6 SH

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
DA 03510	Patient Data Understanding	3
DA 03505	Data Quality and Web/Text Mining	3

Elective Courses 6 s.h.

Choose 6 s.h.

Course #	Course Title	S.H.
DA 03511	Patient Data Privacy & Ethics	3
DA 03520	Healthcare Management	3
STAT 02525	Design and Analysis of Experiments	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

A sufficient computing and mathematics background evidenced by courses in Statistics, Linear Algebra, Object-Oriented Programming, and Data Structures and Algorithms.

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Health Data Management is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Anthony Breitzman
Robinson Hall
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Breitzman@rowan.edu

Certificate of Graduate Study in Networks (COGS)

This certificate is designed for computer scientists or computer engineers who wish to understand network organization, major network protocols and the principles behind them, wireless networks, network security, and the simulation and performance of network applications. Prospective students may be recent graduates of a bachelor's degree program, or they may be older professionals seeking to update their skills. The certificate may be earned on its own, or it can be credited towards the Master of Science in Computer Science.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CS 06505	Wireless Networks & System	3
CS 06510	Computer Networks	3
CS 06512	Network Security	3
CS 07575	Advanced TCP/IP & Internet Protocols & Technologies	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Networks is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Gabriela Hristescu
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Certificate of Graduate Study in Software Engineering (COGS)

This certificate is intended for computer scientists or computer engineers who wish to update their skills and make themselves more marketable in the workplace. These students may be recent graduates from a computer science or computer engineering program, or they may be veteran computing professionals wishing to keep current in their field by learning the newest technologies. The certificate may be earned on its own, or it can be credited towards the Master of Science in Computer Science.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CS 04548	Programming Languages: Theory, Implementation & Application	3
CS 04570	Advanced Object Oriented Design	3
CS 07523	Advanced Software Engineering	3
CS 07570	Information Visualization	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Software Engineering is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Gabriela Hristescu
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hristescu@rowan.edu

Certificate of Graduate Study in Web Development (COGS)

This certificate is intended for computer scientists who wish to update their skills and make themselves more marketable in the workplace. These students may be recent graduates from a computer science program, or they may be veteran computer science professionals wishing to keep current in their field by learning the newest technologies. The certificate may be earned on its own, or it can be credited towards the Master of Science in Computer Science.

Program Requirements

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CS 04505	Advanced Web Programming	3
CS 04530	Advanced Database Systems: Theory & Programming	3
CS 06510	Computer Networks	3
CS 07523	Advanced Software Engineering	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Certificate of Graduate Study in Web Development is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Gabriela Hristescu
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Post-Baccalaureate Programs (Non-degree)

Post-baccalaureate Certificate in Applied Behavior Analysis

Applied behavior analysis is one of the most frequently utilized treatment approaches for children and adults with special needs including autism and developmental disabilities. The scope of practice of behavior analysts is the use of behavioral principles for the assessment and treatment of problem behavior. The Post-Baccalaureate Certificate Program is designed to provide students with the necessary coursework required to apply for certification as a Board Certified assistant Behavior Analyst (BCaBA). In addition to coursework, the BCaBA certification requires a bachelor's degree from an accredited university, and 1000 hours of supervised practice. For more information please see Behavior Analyst Board Certification,

Inc. standards at www.bacb.com .

A note about BCaBA Certification

While the Behavior Analyst Certification Board, Inc. has approved the courses in the Post-Baccalaureate in Applied Behavior Analysis as meeting the coursework requirements for the Board Certified assistant Behavior Analyst (BCaBA) certification, applicants will have to meet additional requirements to qualify for the BCaBA certification including:

- a bachelor's degree from an accredited university
- 1000 hours of supervised practice in the field

The Behavior Analyst Certification Board has ultimate responsibility for determining eligibility for certification as a BCaBA. For more information please see Behavior Analyst Board Certification, Inc. standards at www.bacb.com .

Program Requirements

Required Courses 15 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
PSY 01316	Behavioral Assessment & Measurement	3
PSY 01424	Professional Issues in Applied Behavior Analysis	3
PSY 02305	Applied Behavior Analysis	3
PSY 02310	Learning & Behavior	3
PSY 01425	Fieldwork in Applied Behavior Analysis	3

Total Required Credits for the Program 12 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Post-Baccalaureate in Applied Behavior Analysis is a Category 1 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
Bethany Raiff
Robinson Hall
raiff@rowan.edu

Post-Baccalaureate Programs (Non-degree)

Post-baccalaureate Certificate in Pre-Health Studies

This program is designed for individuals who are interested in a career in the health professions but have little or no background in science. The coursework focuses on medical and dental school prerequisites, the medical school entrance exam (MCAT), and the application process, but also can be tailored to other health-related professional schools. Students who complete the program will receive a Post-Baccalaureate Certificate in Pre-Health Studies from Rowan University and may be eligible to continue their education at the Rowan Graduate School of Biomedical Sciences (RowanGSBS) to receive a Certificate in Biomedical Sciences and/or a Master's Degree. Upon completion of the Post-Baccalaureate Certificate in Pre-Health Studies, students will demonstrate knowledge of scientific foundations, including fundamentals of chemistry, biology, and physics, needed to succeed on the MCAT exam and in medical school or other health-related professional programs.

Students will complete the basic prerequisites for professional school within one calendar year, which will allow them to apply to professional school in a timely fashion. A sample course sequence is described below. Similar course sequence guides will be tailored specifically to each student's desired health-related professional school. Additional recommended courses will be suggested after successful completion of prerequisite courses and in consultation with the program director/health professions advisor.

- Medical/Dental: Students will take CHEM 06100 and CHEM 06101 in the Summer; BIOL 01205, CHEM 07200, and PHYS 00210 in the Fall; and BIOL 01206, CHEM 07201, and PHYS 00210 in the Spring.

- Physical Therapy: Students will take CHEM 06100 and CHEM 06101 in the Summer; BIOL 01205, BIOL 10210, and PHYS 00210 in the Fall; and BIOL 01206, BIOL 10212, & PHYS 00211 in the Spring.

Program Requirements

- The program consists of four (4) required courses (those required by all known health professions programs), totaling 16 credits. These courses are marked "required" below. In addition to the core courses, additional electives would be required depending on which health profession is targeted and in consultation with the program director/health professions advisor. The total credits for the program is 32 credits.
- The number of credit hours is greater than the 30 maximum indicated in the University Senate's curricular definitions guidelines because the courses within the program are 4 credits each.

Required Courses 16 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
CHEM 06100	Chemistry I (required)	4
CHEM 06101	Chemistry II (required)	4
BIOL 01205	Foundations in Biology for Biomedical Sciences I (FBBS1)(required)	4
BIOL 01206	Foundations in Biology for Biomedical Sciences II (FBBS2)(required)	4

Elective Courses 16 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
PHYS 00210	Physics I	4
PHYS 00211	Physics II	4
CHEM 07200	Organic Chemistry I	4
CHEM 07201	Organic Chemistry II	4
BIOL 10210	Human Anatomy and Physiology I	4
BIOL 10212	Human Anatomy and Physiology II	4
BIOL 14440	Introduction to Biochemistry	3
CHEM 07348	Biochemistry	4
BIOL 11330	Microbiology	4
BIOL 22335	Genetics	4
BIOL 22410	Concepts in Human Genetics	4
BIOL 22450	Molecular Genetics	4
STAT 02260	Statistics I	3
STAT 02280	Biometry	4
PSY 01107	Essentials of Psychology	3
MATH 01122	Pre-Calculus	4
MATH 01130	Calculus I	4
MATH 01131	Calculus II	4
SOC 08120	Introduction to Sociology	3

Total Required Credits for the Program 32 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

Completion of the required courses in the selected professional area bank with a 3.0 GPA and approval of completion by the program advisor. Students are required to fulfill a minimum of 32 credits in the program.

Minimum Required Grades and Cumulative GPA

The Post-Baccalaureate in Pre-Health Studies is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

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Undergraduate Degree-Completion Programs

Overview

The following programs lead to a Bachelor's degree. These programs are offered through the Division of Global Learning & Partnerships, but official course descriptions and more about the program as a whole are included in Rowan's Undergraduate Catalog: www.rowan.edu/catalogs .

Bachelor of Arts in Psychology (B.A.)

Defined as the "scientific study of the mind and behavior" Rowan's respected and popular Bachelor of Arts in Psychology program follows the American Psychological Association (APA) guidelines for the undergraduate Psychology Major, which strives to make students "psychologically-literate citizens." This fully online degree-completion program is designed for the adult learner interested in furthering his or her knowledge in the field of psychology.

Rowan University requires the completion of 120 semester hours of approved general education, Rowan Experience, and major coursework in order to graduate with a bachelor's degree. The Bachelor of Arts in Psychology degree completion program is a full- or part-time program that provides students with 33 of the required semester hours.

Program Requirements

Required Psychology Core Courses 33 s.h.

(s.h.: semester hours/credit hours)

Foundation Courses in Psychology

Course #	Course Title	S.H.
PSY 01106	Psychology of Scientific Thinking	3
PSY 01107	Essentials of Psychology	3
PSY 02257	Psychology as a Profession & Practice	3
PSY 07201	Research Methods in Psychology	3
PSY 07202	Statistics in Psychology	3

Basic Cores Areas of Psychology

Course #	Course Title	S.H.
PSY 02310	Learning & Behavior	3
PSY 05206	Social Psychology	3
or PSY 01230	Psychology of Personality	
PSY 09305	Developmental Psychopathology	3
or PSY 03200	Abnormal Psychology	
PSY 09218	Lifespan Development	3
or PSY 09209	Child and Adolescent Psychology	
PSY 10315	Physiological Psychology	3

Psychology Elective Course (3 credits total)

Course #	Course Title	S.H.
TBD	Any other Psychology course	3

Total Required Credits for the Psychology Core Courses 33 s.h.

Non-program Required Courses (also count toward the General Education Requirement) 13 s.h.

Course #	Course Title	S.H.
BIOL 01104	Biology 1: Diversity, Evolution & Adaptation	4
or BIOL 01113	General Biology – Human Focus	
TBD	Any ANTH General Education Course	3
TBD	Any PHIL General Education Course	3
TBD	Any other Social/Behavioral Science General Education Course	3

Total Required Credits for the Non-program required Courses 13 s.h.

General Education and Elective Courses 87 s.h.

Students must also complete courses with the following designation in order to fulfill the Rowan Experience requirement: Writing Intensive (WI), Literature (LIT), Arts and Creative Experience (ACE), Public Speaking (PS), Multicultural/Global (M/G). Students must also complete a total of 30 credits from Rowan University

Total Required Credits for the Program 120 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Academic Advisor Contact Information

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School of Health Professions

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About the School

The School of Health Professions provides rigorous academic training, exceptional clinical and internship experiences, and interprofessional opportunities for students interested in careers in nursing and health-related careers. Our students learn from an accomplished faculty in a collaborative environment and gain hands-on training both on and off campus.

Departments

The School of Health Professions consists of two departments: Health & Exercise Science and Nursing. The Department of Health & Exercise Science offers master's degrees in Athletic Training, Wellness & Lifestyle Management, Nutrition, and Health & Physical Education (non-certification). At the undergraduate level, the Department of Nursing offers an RN-BSN degree and MSN programs in Clinical Nurse Leader and Nurse Practitioner.

Programs Offered

All programs offered are listed below in order of degree/program type and then in alphabetical order by program name. Details about each program are then listed within the catalog in the same order. For the most up-to-date information regarding mode of delivery options for your program of interest, please visit www.rowanu.com/programs .

MASTER'S DEGREES

Program Name	Format/Location	Program/Major Codes	Avail FT/PT	Total Credits
Master of Arts in Health and Physical Education	100% online	MA-HPE/G835	Part-time	30
Master of Arts in Wellness & Lifestyle Management	100% online	MA-WLM/G837	Part-time	30
Master of Science in Athletic Training	Traditional	MS-AT/G328	Full-time	148
Master of Science in Nursing	Blended	MSN-NURS/G265	Part-time	35-38

UNDERGRADUATE DEGREE COMPLETION PROGRAMS

(These programs lead to bachelor's degrees. They are offered through the Division of Global Learning & Partnerships, but official course descriptions and more about the program as a whole are included in Rowan's Undergraduate Catalog: www.rowan.edu/catalogs .)

Program Name	Format/location	Program/Major Codes	Avail FT/PT	Total credits
Bachelor of Science in Nursing	Hybrid- Combination of some face to face courses and some fully online courses	BSN-NUR/1203	Part-time	121

Admissions

For the most up-to-date information regarding admission requirements, entry points, and application deadlines, please visit www.rowanu.com/programs . Click on your program of interest to be connected to program and admission details.

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Master's Degrees

Master of Arts in Health & Physical Education (M.A.)

The Master of Arts in Health & Physical Education is a non-degree program designed to prepare those currently teaching in the field, as well as others, to advance their competencies in the areas of curriculum development and models, instructional strategies and use of technology for teaching diverse students, teacher/program evaluation, and student assessment. Graduates of this master's program will be well prepared for advanced professional work in the field, and for advancement within their profession. The requirements for this program consist of 30 credits of coursework, including a capstone project in which students conduct an in-depth project based on a health or physical area focus of their choice. This program is offered completely online.

The Master of Arts in Health & Physical Education program consists of 10 courses and a total of 30 graduate semester hours (S.H.). This is a part-time accelerated program with degree completion possible in 5 consecutive semesters.

Program Requirements

Required Courses 30 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
HES 00512	Understanding and Applying the Professional Literature in HES	3
HES 00510	Advanced Technology in Health and Physical Education	3
HES 00590	Integrating Wellness into School Settings	3
HES 00520	Contemporary Issues in School Health Education & Physical Education	3
HES 00530	Advanced Instructional Strategies in School Health Education	3
HES 00540	Advanced Instructional Strategies in Physical Education	3
HES 00550	Advanced Assessment in School Health Education	3
HES 00560	Advanced Assessment in Physical Education	3
HES 00570	Teaching School Health Education and Physical Education to Students with Disabilities	3
HES 00550	Capstone Project	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

none

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Master of Arts in Health & Physical Education is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information
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Master of Arts in Wellness & Lifestyle Management (M.A.)

The Master of Arts in Wellness & Lifestyle Management (WLM) is a program for professionals from a variety of disciplines who want to work with clients or students to create and maintain lifestyle changes. The program is designed to serve the needs of professionals from a variety of educational backgrounds. The goal of this program is to prepare professionals in corporate, hospital and community health promotion settings to facilitate and lead wellness initiatives within their organizations. Graduates will be prepared to serve as facilitators, coordinators and managers of wellness programs in the following types of organizations:

- Corporate wellness/fitness facilities Hospital-based wellness/fitness facilities Clinical and rehabilitation centers Schools and Colleges/universities Community wellness/fitness facilities Non-profit health agencies State/county/ity Departments of Public Health </bulletd

The Master of Arts in Wellness & Lifestyle Management program consists of 10 courses and a total of 30 graduate semester hours (S.H.). This is a part-time accelerated program with degree completion possible in 5 consecutive semesters.

Program Requirements

Required Courses 30 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
HES 00512	Understanding & Applying the Professional Literature in HES	3
WLM 00530	Leadership & Management in the Health Promotion Programs	3
WLM 00541	Wellness Coaching & Behavior Change	3
WLM 00542	Program Planning in Health Promotion	3
HES 00550	Capstone Project	3
*or*WLM 00620	Internship in Wellness & Lifestyle Management	
WLM 00580	Obesity & Diabetes Prevention Management	3
HES 00590	Integrating Wellness into School Settings	3
WLM 00600	Wellness through the Lifecycle	3
WLM 00610	Positive Perceptions, Performance & Wellness	3
WLM 00575	Seminar in Wellness Management	3

Total Required Credits for the Program 30 s.h.

Foundation Courses

Students must have completed undergraduate-level Basic Nutrition (NUT 00200) course at an accredited institution before beginning the HLT 00580: Obesity & Diabetes Prevention Management course.

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Master of Arts in Wellness & Lifestyle Management is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator & Academic Advisor
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Master of Science in Athletic Training (M.S.)

The Athletic Training Program at Rowan University is a rigorous and intense program designed to prepare students to take the Board of Certification, Inc., Exam and to become competent Athletic trainers. A major objective of this program is to prepare graduates to enter a variety of employment settings and to render care to a wide spectrum of individuals engaged in physical activity. The technical standards set forth by the Athletic Training Program establish the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills, and competencies of an entry-level certified athletic trainer, as well as meet the expectations for the Commission on Accreditation of Athletic Training Education [CAATE].

The following abilities and expectations must be met by all students admitted to the Athletic Training Program. In the event a student is unable to fulfill these technical standards, with or without reasonable accommodation, the student will not be admitted into the program.

Compliance with the program's technical standards does not guarantee a student's eligibility for Athletic Training Program or the Board of Certification (BOC, Inc.) exam.

Candidates for selection to the Athletic Training Program must demonstrate:

1. The capacity to assimilate, analyze, synthesize, integrate concepts and problem solve to formulate assessment and therapeutic judgments and to be able to distinguish deviations from the norm
2. Sufficient postural and neuromuscular control, sensory function, and coordination to perform appropriate physical examinations using accepted techniques; and accurately, safely and efficiently use equipment and materials during the assessment and treatment of patients
3. The ability to communicate effectively and sensitively with patients and colleagues, including individuals from different cultural and social backgrounds; this includes, but is not limited to, the ability to establish rapport with patients and communicate judgments and treatment information effectively. Students must be able to understand and speak the English language at a level consistent with competent professional practice
4. The ability to record the physical examination results and a treatment plan clearly and accurately
5. The capacity to maintain composure and continue to function well during periods of high stress
6. The perseverance, diligence and commitment to complete the athletic training education program as outlined and sequenced
7. Flexibility and the ability to adjust to changing situations and uncertainty in clinical situations
8. Affective skills and appropriate demeanor and rapport that relate to professional education and quality patient care

General Education

All students must complete the University General Education requirements as described on page 14

Rowan Experience

All students must complete the Rowan Experience Requirements as described on page 16

Required Courses

To complete the program, students must have a minimum of 3.0 overall GPA and 3.0 GPA in the Athletic Training major. No grades less than a C in any Athletic Training major course will be counted toward graduation. Please see the following links for more information:

Pre-requisites for Application to the Athletic Training Program's Professional Phase

Professional Phase Application Procedures

Final Acceptance Criteria for Professional Phase Application

Athletic Training Program's Retention Criteria

Athletic Training Program's Exit (Graduation) Requirements

Please follow Rowan University transfer policy when applying for acceptance to Rowan University. Once accepted into Rowan University, the Athletic Training Program has an additional transfer policy. Please refer to the following: Athletic Training Program's Transfer Policy

Master of Science in Athletic Training Required Courses

STAT 02100	Elementary Statistics	3 s.h.
PSY 01107	Essentials of Psychology	3 s.h.
PSY 09210	Adolescent Development	3 s.h.
PHYS 00150	Physics for Everyday Life	4 s.h.
or PHYS 00210	Physics I	s.h.
BIOL 01113	General Bio Human Focus	4 s.h.
or BIOL 01104	Bio I	s.h.

BIOL 10210	Anatomy and Physiology I	4 s.h.
BIOL 10212	Anatomy and Physiology II	4 s.h.
NUT 00200	Basic Nutrition	3 s.h.
NUT 00415	Nutrition For Fitness	3 s.h.
HES 00345	Exercise Physiology with Lab	4 s.h.
HES 00401	Exercise Prescription	3 s.h.
ATR 00347	Applied Biomechanics	3 s.h.
ATR 00105	Introduction to Athletic Training	3 s.h.
ATR 00218	Prevention and Care of Orthopedic Injuries	3 s.h.
ATR 00334	Advanced Emergency Care	3 s.h.
ATR 00219	Pathology and Evaluation of Orthopedic Injuries I	3 s.h.
ATR 00238	Pathology & Evaluation of Orthopedic Injuries I – Laboratory Experiences	2 s.h.
ATR 00220	Pathology and Evaluation of Orthopedic Injuries II	3 s.h.
ATR 00239	Pathology & Evaluation of Orthopedic Injuries II – Laboratory Experiences	2 s.h.
ATR 00475	Therapeutic Modalities	3 s.h.
ATR 00447	Therapeutic Modalities – Lab	2 s.h.
ATR 00478	Therapeutic Exercises	3 s.h.
ATR 00476	Therapeutic Exercise – Lab	2 s.h.
ATR 00479	Pharmacology and General Medicine	3 s.h.
ATR 00405	Organization and Administration in Athletic Training	3 s.h.
ATR 00477	Psychosocial Aspects of Physical Activity	3 s.h.
ATR 00338	Clinical Techniques in Athletic Training I	2 s.h.
ATR 00339	Clinical Techniques in Athletic Training II	2 s.h.
ATR 00340	Clinical Techniques in Athletic Training III	2 s.h.
ATR 00341	Clinical Techniques in Athletic Training IV	2 s.h.
ATR 00358	Residency in Athletic Training I	3 s.h.
ATR 00359	Residency in Athletic Training II	3 s.h.
ATR 00360	Residency in Athletic Training III	3 s.h.
ATR 00361	Residency in Athletic Training IV	3 s.h.
STAT 02550	Applied Statistical Analysis in Athletic Training	3 s.h.
ATR 00505	Research Methods in Athletic Training	3 s.h.
ATR 00510	Advanced Topics in Clinical Evaluation through Cadaver Anatomy	3 s.h.
ATR 00520	Advanced Rehabilitation Techniques: An Evidence-Based Approach to Rehabilitation	3 s.h.
ATR 00540	Fellowship in Athletic Training I	5 s.h.
ATR 00541	Fellowship in Athletic Training II	5 s.h.
ATR 00560	Thesis I	4 s.h.
ATR 00561	Thesis II	4 s.h.
Total Required Credits for the Program		148 s.h.

Program Coordinator/Advisor Contact Information
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Master of Science in Nursing (M.S.N.)

The Master of Science in Nursing (M.S.N.) program at Rowan University was established to provide Registered Nurses in the greater Philadelphia/tri-state area with the skills to assume leadership roles in their respective organizations.

Concentrations

The Master of Science in Nursing program requires students to select a concentration. Each has different course requirements which are outlined in the chart. All students must successfully complete the Master of Science in Nursing core prior to being approved by the department to continue on to their concentration track. Additional information/requirements regarding this can be found in the students Personalized Course Sequence and Department of Nursing Student Handbook.

- **Clinical Nurse Leader:** The Clinical Nurse Leader concentration will prepare RNs to become a Clinical Nurse Leader (CNL). "In practice, the CNL oversees the care coordination of a distinct group of patients and actively provides direct patient care in complex situations. This master's degree-prepared clinician puts evidence-based practice into action to ensure that patients benefit from the latest innovations in care delivery. The CNL evaluates patient outcomes, assesses cohort risk, and has the decision-making authority to change care plans when necessary. The CNL is a leader in the health care delivery system, and the implementation of this role will vary across settings" (accessed at www.aacn.nche.edu).
- **Nurse Practitioner-Adult Gerontology Acute Care:** The Nurse Practitioner program prepares Registered Nurses (RN) to sit for the concentration certification exam. The certifying agency determines eligibility for the exam.
- **Nurse Practitioner-Family:** The Nurse Practitioner program prepares Registered Nurses (RN) to sit for the specialty certification exam. The certifying agency determines eligibility for the exam.

Program Requirements

Required Core Courses 22 s.h.

(s.h.: semester hours/credit hours)

All applicants to the Master of Science in Nursing program who meet the admission requirements are first admitted to the Master of Science in Nursing CORE which consists of seven graduate level courses taken by all MSN students regardless of their specialty track. Students must maintain a cumulative GPA of 3.0 in all MSN CORE courses in order to apply and be approved by the Department of Nursing to apply to a concentration. Admission to the concentration will only occur after core completion and faculty review/approval.

Course #	Course Title	S.H.
AHI 05501	Integrated Information Technology (45 clinical hours)	3
NURS 05501	Advanced Health Assessment (45 clinical hours)	3
NURS 05503	Nursing Research	4
NURS 05504	Advanced Pathophysiology	3
NURS 05505	Advanced Pharmacology	3
NURS 05507	Leadership & Care Environment Management (25 clinical hours)	3
NURS 05508	Special Issues & Trends in Nursing	3

Required Concentration Courses

Students select one concentration area from the options below.

Clinical Nurse Leader (CNL) 14 s.h.

Course #	Course Title	S.H.
NURS 05509	Clinical Nurse Leader Role	3
NURS 05510	Evidence Based Practice in Illness/Disease Management	3
NURS 05511	Clinical Nurse Leader Practicum I (200 clinical hours)	4
NURS 05512	Clinical Nurse Leader Practicum II (200 clinical hours)	4

Adult Gerontology Acute Care Nurse Practitioner (AGACNP) 16 s.h.

Course #	Course Title	S.H.
NURS 05516	Epidemiology Health Promotion & Disease Management	2
NURS 05517	Nurse Practitioner Role: History, Practice Regulation, Reimbursement, and Ethics	2
NURS 05518	Assessment, Diagnosis, & Differential Disease Management (25 clinical hours)	1
NURS 05519	AGACNP I: Evidence Based Clinical Care for Adult Gerontology Acute Care (100 clinical hours)	3
NURS 05520	AGACNP II: Evidence Based Clinical Care for Adult Gerontology Acute Care (200 clinical hours)	4
NURS 05521		4

	AGACNP III: Evidence Based Clinical Care for Adult Gerontology Acute Care (200 clinical hours)	
Nurse Practitioner-Family (Family NP)		22 s.h.
Course #	Course Title	S.H.
NURS 05516	Epidemiology Health Promotion & Disease Management	2
NURS 05517	Nurse Practitioner Role: History, Practice Regulation, Reimbursement, and Ethics	2
NURS 05522	Family Nurse Practitioner I: Primary Care Management of the Adult & Older Adult Client (100 clinical hours)	3
NURS 05523	Family Nurse Practitioner II: Primary Care of the Adult & Older Adult (100 clinical hours)	3
NURS 05524	Family Nurse Practitioner III: Primary Care Management of the Female Patient (150 clinical hours)	4
NURS 05525	Family Nurse Practitioner IV: Primary Care Management of Children & Adolescents (150 clinical hours)	4
NURS 05526	Family Nurse Practitioner V: Practicum in Family Care (150 clinical hours)	4
Total Required Credits for the Program		35-48 s.h.

Foundation Courses

The applicant must have earned a BSN from an accredited institution with a cumulative GPA of 3.0 or higher.

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Master of Science in Nursing is a Category 2 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Advisor Contact Information

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Undergraduate Degree-Completion Programs

Overview

The following programs lead to a Bachelor's degree. These programs are offered through the Division of Global Learning & Partnerships, but official course descriptions and more about the program as a whole are included in Rowan's Undergraduate Catalog: www.rowan.edu/catalogs .

Bachelor of Science in Nursing (B.S.N.)

The Bachelor of Science Degree in Nursing is offered jointly by the Rowan University School of Health Professions and the Division of Global Learning & Partnerships. It is designed to give additional professional education at the baccalaureate level to practicing nurses. The Bachelor of Science in Nursing degree prepares registered nurses to work in the ever-expanding field of nursing. This degree allows nurses to augment their knowledge base and thus enhance their careers. The Bachelor of Science Degree also acts as a stepping stone for the nurse who wishes to pursue a Master of Science Degree in Nursing with six graduate nursing credits included in the program curriculum. The program is designed as a part-time program to accommodate professionals' schedules while still completing the degree in a timely manner.

RN-to-BSN Curriculum

The complete curriculum includes 121 credits: 31 credits in the RN-to-BSN major and 90 credits of general education courses required by Rowan University for graduation from any bachelor's degree program. Students graduating from an Accreditation Commission for Education in Nursing (ACEN) associate's degree or diploma program are awarded 30 pre-licensure nursing credits upon matriculation into the program. Students transfer credits for coursework completed prior to admission to the program. Degree candidates are encouraged to plan a course of study that meets both the programmatic criteria as well as courses that meet their individual needs and interests.

- Students may transfer up to 90 credits in general education requirements.
- Students must fulfill the general education requirements of Rowan University, either through the transfer of credits or completion of courses at Rowan University.
- Additional coursework may be required, depending on the amount of credits transferred to Rowan University.
- Program must be completed on a part-time basis. There is not a full-time option available.

Course of Study

Rowan University requires 121 credits taken within approved general education and major coursework in order to graduate with a Bachelor's degree. To obtain the BSN all students complete the following coursework:

- 31 credits (9 courses) in the major sequence
- 60 credits in general education requirements
- 30 credits awarded for pre-licensure nursing coursework

General Education

- 60 general education credits required/transfer credits and remaining coursework to be determined by the Nursing Department

Program Requirements

Required Nursing Concentration Courses 31 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
NURS 03303	Comprehensive Health Assessment	3
NURS 03304	Nursing Informatics	3
NURS 03309	Ethics in Healthcare	3
NURS 03401	Community Health Nursing (M/G)	6
NURS 03403	Nursing Care Delivery Systems	4
NURS 03404	Research, Applications in Nursing Practice (WI)	3
NURS 03405	Healthcare Policy & Finance	3
NURS 05504	Advanced Pathophysiology	3
NURS 05505	Advanced Pharmacology	3

* Matriculated students must submit a copy of their current personal malpractice insurance before the start of NURS 03401 Community Health Nursing.

Total Required Credits for the RN to BSN Major Courses 31 s.h.

RN to Bachelor of Science in Nursing Prerequisite Courses

Statistics and English Composition I & II are direct prerequisites for NURS 03404 Research, Applications in Nursing Practice and must be completed prior to being able to take the course (please note that a grade of C or better is needed in Statistics in order for it to meet the pre-requisite requirement).

Graduation/Exit, Benchmark, and/or Thesis Requirements

Program exit includes successful completion of all required coursework totaling 121 credits, including a "C-" or better in all major RN-to-BSN courses. Student will receive a Bachelor of Science in Nursing degree, awarded by Rowan University.

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School of Earth & Environment

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About the School

There is a great need for qualified professionals to address the most dramatic global challenges, including environmental sustainability, energy, and climate change. The School of Earth and Environment at Rowan University will play a role in developing solutions in these areas by cultivating faculty research and preparing students for careers in the geosciences and environmental sciences. Students graduating from the School of Earth and Environment enjoy unparalleled opportunities to integrate classroom learning with hands-on experiences and will be superbly prepared for careers in industry, government agencies, professional studies, or graduate studies in related disciplines.

The Rowan University Fossil Park, a unique world-class reservoir of ancient ecosystems near the Glassboro campus, is a living laboratory and resource for education, research, and outreach. The Fossil Park offers students unparalleled opportunities for hands-on learning experiences and prominent research in paleontology. Because of the appeal of the Fossil Park and the importance of geosciences and environmental sciences to STEM outreach, the School of Earth and Environment coordinates with the Rowan University STEM Center to provide K-12 STEM outreach for the region.

Departments

The School of Earth and Environment consists of the Department of Geography and the Environment and the Department of Geology. The Department of Environmental Science will be established in the near future.

Programs Offered

The School of Earth and Environment offers the following undergraduate degrees: Bachelor of Arts in Geography, Bachelor of Science in Geographic Information Systems (GIS), Bachelor of Science in Planning, Bachelor of Arts in Environmental Studies, Bachelor of Arts in Science and Geology, Bachelor of Arts in Geology, and a Post-baccalaureate Certificate in Cartography & GIS. Minors are offered in Geography, GIS, Planning, and Environmental Studies.

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Post-baccalaureate Certificate in Cartography & GIS

This certificate program is designed to accommodate working professionals in planning, public health, engineering, business, and other areas who wish to gain expertise in cartography and GIS.

Program Requirements

Required Courses 21 s.h.

(s.h.: semester hours/credit hours)

Choose from the following in consultation with the Academic Advisor.

Course #	Course Title	S.H.
Business Courses	**Choose from the following:**	
MIS 02150	Integrated Software Tools for Business	3
MIS 02338	Design of Database Systems	3
Computer Science Courses	**Choose from the following:**	
CS 01102	Intro to Programming	3
CS 04103	Computer Science & Programming	4
CS 04222	Data Structures & Algorithms	3
CS 04315	Programming Languages	3
Mathematics Courses	**Choose from the following:**	
MATH 01122	Precalculus Mathematics	4
MATH 01130	Calculus I	4
MATH 01131	Calculus II	4
MATH 03125	Calculus: Techniques and Applications	3
MATH 03150	Discrete Mathematics	3
Geography Courses	**Choose from the following:**	
GEOG 16160	Intro to Mapping & Geographical Information Sciences	3
GEOG 16370	Remote Sensing/Air Photo	3
GEOG 16307	Geography of Transportation	3
GEOG 16391	Field Studies	3
GEOG 16361	Geovisualization	3

GEOG 16261	Cartography	3
GEOG 16350	Quantitative Methods in Geography	3
GEOG 16260	Geographic Information Systems I	3
GEOG 16360	Geographic Information Systems II	3
PLAN 31383	Metropolitan & Regional Planning	3
PLAN 31386	Land Use & Conservation	3

Total Required Credits for the Program 21 s.h.

Foundation Courses

None

Graduation/Exit/Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Post-Baccalaureate in Cartography & GIS is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Coordinator/Advisor Contact Information

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Mission Statement

Cooper Medical School of Rowan University is committed to providing humanistic education in the art and science of medicine within a scientific and scholarly community in which inclusivity, excellence in patient care, innovative teaching, research, and service to our community are valued. Our core values include a commitment to: diversity, personal mentorship, equity, professionalism, collaboration and mutual respect, civic responsibility, patient advocacy, and life-long learning.

Vision

Cooper Medical School of Rowan University will distinguish itself as an innovative leader in medical education and related research with emphasis on developing and validating comprehensive systems of healthcare for underserved populations as a model to address the challenges of accountable patient care in 21st century and beyond.

Departments

The departments at the medical school are: Biomedical Sciences, Medical Education, Student Affairs & Admissions, Research, Program & Business Development and Finance, Administration & Operations.

Academic Program Policy Categories

For the purposes of both the Minimum Satisfactory Academic Progress policy and the Minimum Graduation Requirements policy, post-baccalaureate/graduate academic programs administered by Rowan Global at Rowan University fall into one of three major categories which are identified by their grade requirements as outlined below. (See individual program descriptions for academic categories.)

Category 1: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 1 program students must:

- Earn no more than two total "B-" grades
- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 2: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 2 program students must:

- Earn no grades lower than a "B-"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Category 3: To maintain Minimum Satisfactory Academic Progress in and to successfully graduate from a Category 3 program students must:

- Earn no more than two total C grades of any combination of "C+" or "C." (C- grades are not acceptable.)
- Earn no grades lower than a "C"
- Earn an official cumulative GPA (according to matriculation level) of at least 3.000 on Rowan's 4.000 scale

Policy Prior to Fall 2013 Matriculation

The academic review and minimum graduation requirements review policies will be applied to Rowan graduate and post-baccalaureate students who matriculate beginning Fall 2013 or later; however, current students (those matriculated and active before Fall 2013) will be grandfathered under the prior policy/practice, whose grade and GPA requirements are the same as Academic Review Category 3.

Post-Baccalaureate Programs (Non-degree)

Post-baccalaureate Certificate in Advanced Premedical Studies

The Post Baccalaureate in Advanced Premedical Studies at CMSRU is a flexible academic enhancement program offered through Cooper Medical School of Rowan University (CMSRU) and Rowan Global. Courses are led by expert faculty and build upon the knowledge base of the premedical core sequence from an undergraduate degree, incorporating high-level problem solving and teamwork. Students will engage in a fast-paced hybrid curriculum that combines online sessions with active learning modalities, augmenting the learning skills they will need in order to excel in medical school. MCAT preparation is included, with particular attention paid to the new competencies tested in MCAT 2015. Focused advising and professional development occur throughout the program, including the medical school application process. A certain percentage of students in the program may be eligible for acceptance into the upcoming class at CMSRU.

Program Requirements

Total credit hours required for program completion: 27 Semester Hours (S.H.) MCAT preparation courses incorporated at no additional charge.

Required Courses 12 s.h.

(s.h.: semester hours/credit hours)

Course #	Course Title	S.H.
SOC 08121	Introduction to Sociology for the Premedical Student	3
PSY 01107	Essentials of Psychology	3
PMED 01310	Medical Biochemistry: A Clinical Approach	3
PMED 01320	Cellular Basis of Molecular and Regenerative Medicine	3
PMED 01420	Human Physiology	3
PMED 01430	Medical Microbiology	3
PMED 01410	Medical Genetics	3
PMED 01440	Mechanisms of Disease	3

Choose 3 s.h. from the following options:

Course #	Course Title	S.H.
PMED 01210	Introduction to Public Health	3
PMED 01220	Applied Medical Ethics	3

Total Required Credits for the Program 27 s.h.

Foundation Courses

None

Graduation/Exit, Benchmark, and/or Thesis Requirements

None

Minimum Required Grades and Cumulative GPA

The Post-Baccalaureate in Advanced Premedical Studies is a Category 3 program.

For details regarding satisfactory academic progress and graduation requirements, please visit www.rowanu.com/policies.

Program Contact Information

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Faculty List

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Folkinshteyn, Daniel(2011) Assistant Professor
B.A. Yale; MS, MBA, Ph.D Temple University

Hughes, Diane(1987) Associate Professor
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Isik, Ihsan(2001) Professor
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Graziano, Jane E.(1999) Professor
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Hottle, Andrew D.(2004) Professor
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Department of English

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Coulombe, Joseph L.(2001) Professor
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Crowley, Dustin(2015) Assistant Professor
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Falck, Claire(2013) Assistant Professor
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Freind, William(2005) Associate Professor
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Meadowsong, Zena(2010) Associate Professor
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Plourde, Bruce(2013) Instructor
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Slater, Katharine(2014) Assistant Professor
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Talley, Lee(2002) Professor
B.A., Cornell University; M.A., Ph.D., Princeton University

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Vitto, Cindy L.(1989) Professor
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Department of ExEED

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Harvey, Roberta(1989) Associate Professor
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Tremoulet, Patrice(2000) Assistant Professor
B.S.E., Princeton University; M.S., Stanford University; M.S., Ph.D., Rutgers University

Tremoulet, Polly(2017) Assistant Professor
Ph.D. Rutgers

Yurak, Tricia(1998) Associate Professor
B.S., Northern Kentucky University; M.S., Ph.D., Ohio University

Department of Public Relations and Advertising

Basso, Joseph(2003) Professor
B.A., M.A., Glassboro State College; Ph.D., Texas A & M University; J.D., Widener University; APR

FitzGerald, Suzanne Sparks(1994) Professor
B.A., Eastern University; M.S., Drexel University; Ph.D., Temple University; APR Fellow PRSA

Johnson, Kristine(2013) Assistant Professor
B.S. University of Texas, MS, Texas Christian, Ph.D., Florida State University

Kim, Bokyung(2012) Assistant Professor
B.A. Handong Global University, MA, Michigan State University, Ph.D., University of Missouri

Nia-Schoenstein, Asi(2013) Instructor
B.A., Clark University; M.S., Boston University; APR

Novak, Alison(2015) Assistant Professor
B.A. Marist College, Ph.D. Drexel University

Pattwell, Ashley(2016) Assistant Professor
B.A. Muhlenberg College; Ph.D., Drexel University

Pittman, Matthew(2017) Assistant Professor
PhD. Oregon

Vilceanu, Olga(2011) Associate Professor
B.A., M.A., Bucharest University; Ph.D., Temple University

Department of Radio, Television and Film

Bierman, Joseph(1988) Associate Professor
B.A., Rowan University; M.F.A., New York University; Ph.D., Regent University

Biesen, Sheri Chinen(2001) Professor
B.A., M.A., University of Southern California; Ph.D., The University of Texas

Brand, Keith M.(2002) Professor
B.F.A., West Virginia University; M.Ed., Temple University

David Bianculli(2009) Professor
B.S., M.A., University of Florida

Donovan, Mike(1972) Professor
B.A., Jersey City State College; M.A., New York University

Mason, Jonathan(2010) Assistant Professor
B.A., University of Miami; M.F.A,. Columbia University

Montgomery, Colleen(2017) Assistant Professor
PhD. Texas

Nicolae, Diana(2006) Associate Professor
B.A., Bucharest University; M.F.A., University of North Carolina - Greensboro

Olshefski, Jonathan (2010) Assistant Professor
B.A., M.F.A., Temple University

Politz, Keir(2015) Assistant Professor
B.A., College of Holy Cross; M.F.A., Columbia University

Winkler, Chris(2016) Assistant Professor
M.A, Syracuse University

Department of Science, Technology, Engineering, Art and Mathematics (STEAM)

Abi-El-Mona, Issam H.(2008) Associate Professor
B.S., M.A., American University of Beirut; Ph.D., University of Illinois Urbana-Champaign

Blatt, Erica(2017) Assistant Professor
PhD New Hampshire

Fopeano, Richard J.(1992) Associate Professor
B.S., State University of New York; M.A., Ball State University; Ph.D.,Temple University

Graziano, Jane E.(1999) Professor
B.S., University of Illinois; M.A., Rowan University; Ed.D, Teachers College, Columbia University

Kuo, Yu Chun(2015) Assistant Professor
B.S., M.S. National Taiwan University; Ph.D., Utah State University

Perry, Jill Ann(2001) Associate Professor
B.S., M.Ed., University of Florida; Ph.D., University of Central Florida

Weiman, Robert(2012) Assistant Professor
B.A. Williams College; M.A. City University of New York; Ph.D. Univ. of Delaware

Department of Sociology and Anthropology

Abbott, James R.(1990) Professor
B.A., University of San Diego; M.A., Ph.D., University of Pennsylvania

Gallant, Mary J.(1992) Associate Professor
B.A., M.A., University of Missouri; Ph.D., University of Minnesota

Hartman, Harriet J.(1996) Professor
B.A., University of California at Los Angeles; M.A., University of Michigan; Ph.D., Hebrew University of Jerusalem

Hill, Jane(2013) Instructor
B.A. University of Mississippi, M.A. University of Memphis (Anthropology), M.A. University of Memphis (Art History-Egyptology) Ph.D., University of Pennsylvania

Hutter, Mark(1974) Professor
B.A., M.A., Brooklyn College; Ph.D., University of Minnesota

Joy, Sandra (2003) Professor
B.A., Christopher Newport University; M.S.W., Norfolk State University; M.A., Ph.D., Temple University

Kasserman, David(1973) Associate Professor
B.A., Indiana University; M.A., Ph.D., University of Pennsylvania

Li, Yuhui(1992) Professor
B.A., Sichuan Foreign Languages Institute, China; M.A., Ohio University; Ph.D., Ohio State University

McCann, Sharon(2017) Lecturer
BA, Immaculata; M.S.S & M.L.S.P. Bryn Mawr College

Miller, DeMond S.(1997) Professor
B.A., Northeast Louisiana University; M.S., Ph.D., Mississippi State University

Rosado, Maria(1993) Professor
B.A., M.A., Ph.D., Rutgers University

Sommo, Anthony J.(1992) Assistant Professor
B.A., M.A., Ph.D., University of Connecticut; M.S.W., Syracuse University

Department of Theatre and Dance

Bazemore, Dawn Marie(2016) Assistant Professor
B.F.A, SUNY Purchase; M.F.A. Hollins University

Elkins, Leslie A.(2004) Associate Professor
B.A., Columbia College; M.Ed., Ph. D., Temple University

Fusco, Thomas A.(1999) Associate Professor
B.A., University of Massachusetts; M.F.A., Boston University

Hostetter, Anthony(2012) Instructor
B.F.A., Virginia Commonwealth University; M.F.A. Penn State, Ph.D., University of Missouri

Hostetter, Elisabeth(2000) Professor
B.F.A., Virginia Commonwealth University; M.A., University of Texas; Ph.D., University of Missouri

Morgan, Michael Dean(2017) Assistant Professor
B.A. Carroll University; MFA University of California, Irvine

Roche, Christopher(2014) Assistant Professor
B.A. Catholic University; M.F.A. Ohio State University; Ph.D, Ohio State University

Savadove, Lane(2007) Professor
B.A., Haverford College; MFA, Columbia University

Stewart, Melanie(1981) Professor
B.A., Webster College; M.F.A., Temple University

Turner, Paule Lawrence(2000) Associate Professor
B.F.A., Virginia Commonwealth University; M.F.A., Temple University

Department of Writing Arts

Atwood, Megan(2017) Assistant Professor
B.A., University of Iowa, M.F.A., Hamline University

Block, Ronald(2003) Associate Professor
B.A., University of Nebraska; M.A., M.S., Syracuse University

Courtney, Jennifer(2004) Associate Professor
B.A., Duquesne University; M.A., Western Michigan; Ph.D., Purdue University

Del Russo, Celeste(2015) Assistant Professor
B.A., Wheaton College; M.A., University of New Orleans; M.Sc., University of Oxford; Ph.D., University of Arizona

Fillenwarth, Gracemarie(2016) Assistant Professor
B.A., King's College; M.A. Virginia Tech; Ph.D., Purdue University

Han, Aiguo(1993) Associate Professor
B.A., Xian Foreign Language University; M.A., Ph.D., Indiana University of Pennsylvania

Herberg, Erin V.(2000) Assistant Professor
B.S., B.A., Western Carolina University; M.A., Ph.D., Georgia State University

Hornbacher, Marya(2016) Assistant Professor
B.A. New College of California

Jahn-Clough, Lisa(2010) Associate Professor
B.A., Hampshire College, M.F.A. Emerson College

Kopp, Andrew(2009) Associate Professor
B.A., University of South Florida; M.A., Ph.D., University of Arizona

Luther, Jason(2017) Assistant Professor
B.A., B.S., SUNY Fredonia, M.A. University of Nevada, Reno, Ph.D., Syracuse University

Martin, Deb(2003) Professor
B.S., Western Michigan University; M.A., Ph.D., Texas Woman's University

Maxson, Jeffrey N.(1994) Associate Professor
B.A., Yale University; M.A., Ph.D., University of California at Berkeley

Reed, Amy(2012) Associate Professor
B.A., B.S., The Ohio State University; M.A., University of Dayton; Ph.D., Virginia Tech University

Shapiro, Rachael(2015) Assistant Professor
B.A., SUNY Plattsburgh; M.A., Washington State University; Ph.D., Syracuse University

Tole, Jennifer(2014) Instructor
B.A., Ph.D., Temple University

Tweedie, Sanford M.(1994) Professor
B.A., University of Michigan; M.A., Eastern Michigan University; Ph.D., University of Wisconsin-Milwaukee

Woodworth, Amy(2013) Assistant Professor
B.A., New York University; M.A., Rutgers University at Newark; Ph.D., Temple University

Course Descriptions

ACC 03210: Principles Of Accounting I 3 s.h.
This course includes accounting theory and practice in the analysis of business transactions and the recording of business data; complete accounting cycle; interpretation of financial data for sole proprietorship, partnerships, corporations and public agencies.

ACC 03211: Principles Of Accounting II 3 s.h.
Prerequisites: ACC 03210
This course includes accounting theory and practice applied to corporations and public agencies; budgeting and estimating; analysis and comparison of cost and financial data.

ACC 03500: Managerial Accounting 3 s.h.
This course takes a managerial approach with emphasis on decision-making. It includes financial statement analysis and topics on determination of cost behavior using regression analysis and learning curves, activity based costing, cost allocation, performance measurement, and the decision-making process.

ACC 03502: Advanced Managerial Accounting 3 s.h.
Taking a managerial approach, this course examines decision making by management. It includes topics on activity-based cost allocation, determination of cost behavior using regression analysis and learning curves, cost allocation, the decision-making process and decision models under uncertainty, performance measurement and executive compensation.

ACC 03503: Corporate And Partnership Taxes 3 s.h.
This course presents an overview of the Federal Tax System relating to various business forms including corporations, partnerships and exempt entities. Students will examine major tax legislation and judicial precedents with a focus on current and pending legislation. Topics will include corporate organization, accumulations and liquidation, partnership formation, S corporations, exempt organizations, estate and gift taxation, including trusts. Research and preparation software will be used throughout the course.

ACC 03504: Seminar In Auditing 3 s.h.
Students will develop an understanding of the judgmental issues faced in providing audit and assurance services. Further emphasis will be the application of underlying accounting concepts to solve these judgmental issues. In addition, an emphasis will be on the auditor's decision-making process and the nature and amount of evidence the auditor should accumulate given engagement circumstances.

ACC 03505: Seminar In Business Law 3 s.h.
In this course, students study the legal aspects of sales, liability, secured transactions, commercial paper and consumer credit. In addition, the course will emphasize legal analysis and research.

ACC 03506: Advanced Domestic & International Accounting 3 s.h.
This financial accounting course focuses on the accounting for corporate mergers and acquisitions, and the accounting and financial reporting requirements of corporations with both domestic and international subsidiaries. It includes coverage of international financial reporting comparability.

ACC 03507: Government And Non-For-Profit Accounting 3 s.h.
This financial accounting course focuses on the contemporary accounting issues of governmental and non-profit organizations. It includes: financial reporting, budgeting, forecasting and strategic planning in the environments of local, state, federal government, colleges and universities, hospitals, and voluntary health and welfare organizations.

ACC 03508: Seminar And Research In Accounting 3 s.h.
This seminar provides the opportunity for students to improve their professional research skills and advance their own scholarly development in the accounting field. Taken after five graduate accounting and busienss law courses, it provides a synthesis of prior learning. Students will work collaboratively with the professor and other enrolled students to develop and complete a major research project and other assignments. Topics may include financial, not-for-profit, managerial, auditing, or tax accounting.

ACC 03509: Intermediate Financial Accounting 3 s.h.
This course will include a review of the accounting process, the conceptual framework, the preparation of financial statements and specific principles related to the accounting for current assets, property, plant and equipment, liabilities, leases, income taxes, pensions, and shareholders' equity. Research and empirical evidence will be emphasized. This course is restricted to students who have not taken Intermediate Accounting I and II at the undergraduate level.

ACC 03510: Financial Statement Analysis 3 s.h.
Prerequisites:Intermediate Accounting I (ACC 03310) ORManagerial Accounting (ACC 03500) OR Permission of theInstructor AND Admission to the MBA, MS in Finance ORCOGS in Accounting.
This course will take an expanded study of financial statement analysis from the point of view of the primary users of financial statements: equity and credit analysts. The analysis and use of financial statements will also emphasize the properties of numbers derived from these statements, and the features of the environment in which key decisions are made in using financial statement information. Research and empirical evidence will be emphasized.

ACC 03511: Introduction To Federal Taxation 3 s.h.
Prerequisite: Admission into MBA program or Admission into Certificate of Advanced Graduate Study in Accounting program.
Federal income tax concepts, including gross income, deductions, credits, gains and losses from dispositions of property, deferred and tax exempt transactions, assignment of income, tax accounting, and other special topics. Emphasis will be placed on interpreting the Internal Revenue Code and Regulations as well as case law. Students will be required to show evidence of scholarly research through a major writing assignment on an emerging tax issue.

ACC 03512: Advanced Accounting Information Systems and Business Process Controls 3 s.h.
Prerequisite(s): None
This course is designed to give the MBA student and introduction to the important concepts related to accounting information systems, with emphasis on enterprise risk management. An overview of internal control frameworks is used to discuss pervasive, business process and application controls. A methodology for evaluating the risks and controls within a defined business process is demonstrated and applied across the major business processes. Students will gain hands-on experience with a leading Enterprise Resource Planning system and commercial computerized accounting software.

ACC 03513: CPA Review 3 s.h.
Prerequisite(s): None
This course provides a review of accouting problems and concepts common on the CPA exam and prepares students to gain the skills and knowledge necessary to pass the CPA exam. Topics covered will include: Financial accounting and reporting, Auditing and attestation, Business environment and concepts, and Regulation.

ACC 03514: Accounting Legal Liability and Professional Responsibility 3 s.h.
Prerequisite(s): MGT 98242 or equivalent
This course is a study of the legal liability of accountants and ethical concepts. It will cover the following areas: the ethical role of the professional accountant, professional codes of conduct, ethical decision making, legal and regulatory obligations, and corporate governance and ethical management.

ACC 03515: Forensic Accounting 3 s.h.
Prerequisite(s): None
The course provides a broad overview of forensic acconting. It examines current issues of fraud, such as the nature of fraud, types of fraud, identification, detection, and prevention of fraud. The course provided students exposure to case study, analytics and critical thinking in order to confirm the financial information is presented fairly.

FIN 04300: Principles Of Finance 3 s.h.
Prerequisites: ACC 03211 and STAT 02260 and MATH 03125 or MATH 01130 and ECON 04101 and ECON 04102
This course includes the following topics: financial goals; depreciation, taxation and cashflows; financing the firm via short-term, intermediate and long-term debt, and preferred and common stock; capital budgeting and leasing; dividend policy; business growth and contraction.

FIN 04435: International Financial Management 3 s.h.
Prerequisites: FIN 04300
This course studies financial management in the international environment. Topics include foreign exchange risk management, multinational working capital management, international portfolio investment, foreign direct investment, capital budgeting for the multinational corporation, political risk, international financing and international financial markets.

FIN 04500: Financial Decision Making 3 s.h.
Prerequisites:ACC 03510 or ACC 03500 andPrerequisite or Corequisite: MGT 07500
Students in this course will learn valuation techniques including adjusted present value, equity cash flows, and real-option valuation. In addition to comparing alternative valuation techniques and the assumptions and limitations underlying each, students explore the technical difficulties and incentive effects caused by high leverage, the relation between capital structure and capital costs, the interaction between a firm's financial structure and its business strategies, the conditions contributing to potential under or over-valuation of a firm's prospects by the market, and the managerial consequences of such mis-valuation.

FIN 04505: Advanced Financial Planning 3 s.h.
Prerequisite: Admissions to the MBA or MS in Finance program
Financial planning is the process of meeting life goals through the proper management of finances. Life goals can include buying a home, saving for your child's education or planning for retirement. Through sound financial planning individuals can make decisions that will produce their desired results. In this course, students will learn foundations of financial planning, managing basic assets, managing credit, managing insurance needs, managing investments and prepqring for retirement and estate planning.

FIN 04510: INDEPENDENT STUDY:FINANCE 1 to 6 s.h.

FIN 04511: Quantitative Methods in Finance 3 s.h.
Prerequisites: Admission to MBA or MS in Finance Program
The objective of this course is to teach students the fundamentals of quantitative finance. The topics covered in the course include asset returns and time value of money, probability and statistics in their applications to financial analysis, portfolio theory and asset pricing models, regression and econometrics for financial data analysis, structure and pricing of financial derivatives, risk quantification and management.

FIN 04512: Capital Budgeting 3 s.h.
This course includes the following topics: estimation of project cash flows, interest, annuity, and present value calculations, evaluation of projects under conditions of certainty and risk, strategic planning in capital budgeting, and leasing. This course may not be offered annually.

FIN 04516: Issues In Finance 3 s.h.
Prerequisites: Financial Decision Making (FIN 04500) ORPermissions of Instructor AND Admissions to MBA.
This course includes the following topics: mergers and acquisitions, financial structure analysis, cost of capital analysis, capital budgeting, portfolio management, financial institutions, money and capital markets, and international finance. This course may not be offered annually.

FIN 04518: Derivative Securities and Financial Risk 3 s.h.
Prerequisite(s):Investments and Portfolio Analysis FIN 04600 OR Permission of Instructor AND Admission to MBA ORMS in Finance.
In this course, students will learn forward, future, option and swap contracts, and hedging, arbitrage, and derivatives-pricing models. In addition, securitization and risk managment concepts will be covered. Students will learn how to model and evaluate derivative instruments and their applications to corporate strategy and risk management.

FIN 04520: FINANCIAL MODELING 3 s.h.
Prerequisites: FIN 04500 Financial Decision Making ORInstructor's Permissions AND Admission to MBA orMS in Finance program.
The objective of this course is to teach students the fundamentals and practice of building financial models by using Microsoft Excel. Students become familiar with the built-in-functions of Excel and learn how to use them in financial model building with a hands-on-approach. The topics covered in the course include financial statement modeling, cost of capital, capital budgeting modeling, leasing, valuation analysis, portfolio modeling, capital-asset pricing models, option-pricing models, real options modeling, bonds, and term structure modeling.

FIN 04530: Multinational Financial Management 3 s.h.
Prerequisite: FIN 04500 Financial Decision Making ORInstructor's Permission AND Admission to MBA ORMS in Finance program.
The objective of this course is to examine the managerial implications pertaining to the financial operations of the multinational firms of the investments in the international arena. The standard topics in international finance, such as exchange rate determination, foreign exchange risk (exposure), hedging techniques (using derivatives), international corporate valuation and capital budgeting, and sources of funds and the cost of capital in the international bond, stock, and money markets, are examined from a managerial point of view.

FIN 04540: Financial Institutions Management 3 s.h.
Prerequisite(s): Admissions to MBA or MS in Finance programOR Instructor permission.
In the course, students will learn about the many roles financial service-providers play in the economy today. Students will examine how and why the financial services marketplace as a whole is rapidly changing, becoming new and different as we move forward into the future. Students will also learn the techniques how to measure and manage various financial risks the modern financial institutions face in today's globally competitive financial environment, such as interest rate, market, credit, liquidity, off balance sheet, foreign exchange, sovereign, technology and other operational risks.

FIN 04560: FIXED INCOME SECURITIES 3 s.h.
Prerequisites: FIN 04500 Financial Decision Making ORInstructor's Permissions AND Admission to MBA ORMS in Finance program.
The objective of this course is to teach students the fundamentals of fixed income markets, covering different fixed income security types, and the mathematics of their evaluation and risk management. The topics covered in the course include fixed income security valuation, term structure of interest rates and the yield curve, fixed income risk quantification and management, securities with embedded options, credit derivatives, interest rate derivatives, and portfolio management.

FIN 04600: Investment Analysis and Portfolio Management 3 s.h.
Prerequisites:Completion of Managerial Decision Making Tools (MGT 07500) OR Quantitative Methods in Finance(FIN 04511) OR Permissions of Instructor AND Admissionto the MBA OR MS in Finance.
Students will analyze and develop an ability to deal with the following topics: investment values and market price with regard to risk, return, portfolio diversification, taxes and inflation. They will also examine the role of fixed income securities versus common stock prices, yields, returns and valuations; warrants, options and future contracts, U.S. and foreign securities markets, and the rapidly developing science of portfolio management as it applies to both the firm and the individual. This course may not be offered annually.

ARHS 03520: Art Since 1945 3 s.h.

ART 02523: Graduate Painting I 3 s.h.
Advanced graduate work in concepts, techniques and media appropriate to contemporary painting and individual expression.

ART 02524: Graduate Painting II 3 s.h.
Further advanced work in painting.

ART 02532: Graduate Printmaking I 3 s.h.
Advanced graduate work in concepts, techniques and media appropriate to contemporary printmaking and individual expression. Permission of the instructor is strongly advised.

ART 02533: Graduate Printmaking II 3 s.h.
Further advanced work in printmaking.

ART 02535: Advanced Graduate Problems In Art 2 to 6 s.h.
Extensive in-depth work at the third or fourth graduate course level in a studies, art education or art history area arranged with permission of the appropriate professor, the graduate advisor and department chairperson.

ART 02560: INDEP STUDY-ART 3 to 6 s.h.

ART 09200: Theory and Analysis of Art Education 3 s.h.
This course provides students with an historical knowledge base of the theories, philosophies and persons that have impacted the teaching of art in public schools. Assignments will actively engage learners in developing their own teaching philosophies as they examine current theoretical and pedagogical research, and the national and state curriculum standards for teachers and students of the visual arts.

ART 09520: Jewelry I 3 s.h.
Emphasis is on original metal design and construction, involving techniques and processes in the designing, forming and finishing of utilitarian and decorative hand-wrought products.

ART 09521: Jewelry II 3 s.h.
Further advanced work. This course may not be offered annually.

ART 09529: CERAMICS I 3 s.h.

ART 09530: CERAMICS II 3 s.h.

SMED 31507: GRAD PROBS 3 s.h.

BIOL 01100: Biology I 4 s.h.
This course studies the chemical properties of protoplasm; cell structure and cell division; metabolic processes in organisms, including photosynthesis and respiration; principles of genetics including Mendelian laws; evolution and ecological relationships of organisms.

BIOL 01104: Introduction to Evolution and Scientific Inquiry 4 s.h.
This laboratory course is designed for freshman Biology majors and is the first of a four-course introductory sequence. This course introduces students to organismal diversity and its evolutionary origins, covers the fundamental concepts of evolutionary theory, and surveys many of the ways that organisms have become adapted to their environments. In addition, students in this course will learn some of the basic skills necessary for scientific inquiry, including the scientific method, critical thinking, experimental design, and the gathering, analysis, and presentation of quantitative data. Credit will not be given for both Biology I (BIOL 01104) and Biology I (BIOL 01100). Priority for enrollment will be given to students declared as Biology majors, Biology minors, Computer Science majors, Biochemistry majors, Environmental Studies majors, Environmental Studies minors, or Pre-Medical concentration.

BIOL 01106: Introduction to Genetics 4 s.h.
Prerequisites: BIOL 01104 with C- or better
This course is designed for first year biology majors and builds on skills and knowledge gained by the students from Biology 1. The course focuses on the study of genetic factors in bacteria, viruses, higher plants and animals. The principles of mendelian, molecular and population genetics will be introduced. Discussion of genetic applications in agriculture, biotechnology, and medicine will be an integral part of the course. The laboratory projects will provide the students with the opportunity to gain hands-on experience with the most common classical and molecular genetics methods. Credit will not be given for both Biology 2 (BIOL01.104) and Biology II (BIOL01.101).

BIOL 01113: General Biology: Human Focus 4 s.h.
This one-semester laboratory course provides an introduction to the basic concepts of the biological sciences, including, but not limited to, cell biology, the body plan and organ systems of vertebrate animals, genetics and heredity, and vertebrate evolution. Emphasis will be placed on how these topics relate to the human organism. Laboratory exercises enable the student to visualize many of the concepts discussed in class. No credit toward biology major.

BIOL 01202: Biological Skills for Transfer Students 4 s.h.
Prerequisites: BIOL 01100 and BIOL 01101
This laboratory course is designed for students transferring into the Biology major after having completed Biology I and Biology II at another institution. This course will review key topics covered in Biology 1, 2, and 3 (BIOL01.103, BIOL01.104, and BIOL01.203) while introducing students to a variety of scientific skills covered in those courses. Examples of skills include critical thinking, experimental design, reading of primary literature, data collection, analysis, and interpretation, and oral and written scientific presentations. Credit will not be given for both Biology 3 (BIOL01.203) and 3t (BIOL01.202).

BIOL 01203: Introduction to Cell Biology 4 s.h.
Prerequisites: BIOL 01106 with C- or better
This laboratory course introduces students to the fundamentals of cell biology, including the cellular basis of life, cell evolution, cellular organization, cell metabolism, cell diversity, cell-cell communication, intracellular signaling and the cellular basis of disease.

BIOL 01205: Foundations in Biology for Biomedical Sciences I 4 s.h.
Prerequisite(s): CHEM 06101 or CHEM 06106
This laboratory course is the first of the two semester sequence designed for students not majoring in Biology but interested in pursuing studies in biomedical areas through advanced Biology courses. This sequence serves as an introductions to fundamental biological concepts and the foundation for upper-level biology courses for such students. Both courses of the sequence focus on genetics, cell biology, and evolution and theor relation to human health. This course focuses more specifically on the molecular basis of variation and heredity and its evolutionary context.

BIOL 01206: Foundations in Biology for Biomedical Sciences II 4 s.h.
Prerequisite(s): BIOL 01205
THis laboratory course is the second of the two semester sequence designed for students not majoring in Biology but interested in pursuing studies in biomedical areas through advanced Biology courses. This sequence serves as an introduction to fundamental biological concepts and the foundation for upper-level biology courses for such students. Both courses of the sequence focus on genetics, cell biology, and evolution and their relation to human health. This course focuses on molecular and cellular mechanisms of life and their evolutionary context.

BIOL 01599: INDEP STUDY 1 to 3 s.h.

BIOL 05555: Bioinformatics: Advanced Biological Applications 3 s.h.
Prerequisites: Graduate Student Status
This course in bioinformatics covers the application of modern computational and functional genomics methods to current questions in biological and biomedical sciences. Bioinformatics approaches and philosophy will be highlighted through exploration of research problems in cell and developmental biology, and ecology. Collaborative learning and problem solving using computational, statistical and genomics methods will be emphasized. Students will design and carry out collaborative research projects.

BIOL 10210: Human Anatomy And Physiology I 4 s.h.
This course offers a molecular, cellular and systematic approach to the structure and function of the component units and organizational systems of humans. Emphasis is placed on membrane physiology and the skeletal, molecular, digestive and circulatory systems.

BIOL 10212: Human Anatomy And Physiology II 4 s.h.
This laboratory course focuses on the gross and microscopic structure of the body. The course is the second semester of a two-semester sequence that covers all of the functional systems of the human organism. In this course, the systems of the body to be studied in detail include the endocrine, cardiovascular, respiratory, excretory, digestive, and reproductive systems. Whole body metabolism and fluid balance will also be studied.

BIOL 11330: Microbiology 4 s.h.
Prerequisites: BIOL 01204 with C- or better or BIOL 01206with C- or better
This course deals with the morphology and physiology of unicellular organisms, with emphasis upon bacteria. It studies culture methods, growth parameters, isolation, identification and characterization, and metabolism of microorganisms in the laboratory.

BIOL 14440: Introduction To Biochemistry - Lecture Only 3 s.h.
Prerequisites: BIOL 01204 with C- or better ORBIOL 01206 with C- or better and CHEM 07201
This course investigates chemical compounds and chemical reactions which are of paramount importance to the functioning of biological systems. It also examines the major metabolic pathways for energy production and biosynthesis.

BIOL 14540: Introduction To Biochemistry I 3 s.h.
This course is concerned with the chemical compounds and chemical reactions which are of paramount importance to the functioning of biological systems. The major metabolic pathways for energy production and biosynthesis are examined. The requirements include a research paper or individual project. Admission to the course is at the discretion of the Graduate Advisor. This course may not be offered annually.

BIOL 22335: Advanced Genetics 4 s.h.
Prerequisites: BIOL 01204 with C- or better orBIOL 01206 with C- or better
The course will provide an in-depth background in all areas of Mendelian, molecular, population and evolutionary genetics. The students will learn how to use genetic tools in dissecting complex biological pathways, developmental processes and regulatory systems. Discussion of landmark genetic experiments will constitute the basis of an inquiry-based approach that will delineate the dynamic nature of modern genetics. The laboratory exercises are designed to put special emphasis on molecular biology techniques and the use of bioinformatics.

BIOL 22410: Concepts In Human Genetics 4 s.h.
Prerequisites: BIOL 01204 with C- or better orBIOL 01206 with C- or better
The course will discuss the application of genetics principles to the human species. All major areas of genetics such as transmission genetics, cytogenetics, biochemical genetics, molecular genetics and population genetics will be covered. The emphasis will be placed on fundamental concepts and technological advances in the study of human genetics as they pertain to medical practice. The principles of human genetics applied to counseling, screening, ethics, law, and the evaluation of their social implications will also be addressed. The laboratory sessions will focus on the practical analysis of various case studies related to different human genetic disorders. Oral presentation of primary literature articles by the students is expected.

BIOL 22450: Molecular Genetics 4 s.h.
Prerequisites: BIOL 01204 with C- or better orBIOL 01206 with C- or better
This course considers the principal concepts in biochemical genetics including gene function and regulation, DNA replication, and mutation. Laboratories focus on fundamental biotechnology concepts and techniques.

BIOL 27503: Concepts Of Comparative Embryology 4 s.h.
This graduate laboratory course focuses on the morphological and physiologic processes involved in embryogenesis of animals. The course includes the development of echinoderms, amphibians, birds, and mammals. Considerable emphasis will be placed on organogenesis and the development of organ systems.

BMS 01360: Biophysics I 4 s.h.
Prerequisites: PHYS 00300; BIOL 01203 or BIOL 01202 andone of PHYS00211 or PHYS 00221 or PHYS 00222
This course is aimed at understanding the physics of biological systems. The goal of the course is to quantitatively define biological systems and their functions. Key emphasis will be placed on (1) understanding theories, laws, and axioms that govern systems and their behavior and (2) the use of physics to determine quantitative information about systems and their behaviors. For each topic, the basic laws of physics will be reviewed followed by their application to specific biomolecular or biological system examples. The laboratory component is aimed at giving students hands-on experience in measurement and observation for biological systems.

BMS 01514: Infectious Agents 3 s.h.
This course aims at preparing students for health professions and biomedical research by exploring host-pathogens interactions. Infectious agents among viruses, bacteria, parasites and/or fungi will be selected to examine life cycles, interaction with hosts and pathogenicity. Translational use of pathogens in disease prevention and therapies will also be explored. In this course, students will also develop research proposals on selected infectious agents.

BME 11590: Advanced Emerging Topics in Biomedical Engineering 1 to 4 s.h.
This course provides timely coverage of specific advanced topics in Biomedical Engineering, and it is intended for graduate students. Special topics courses may be traditional classroom-based courses as well as research-related courses supervised by specific advisors. This class may be taken multiple times when offered with a different special topics content.

BME 11610: Special Topics for Doctoral Students in Biomedical Engineering 3 s.h.
The students will study advanced level topics in Biomedical Engineering.

BMS 01534: Advanced Medical Biochemistry 3 s.h.
This course is intended to introduce graduate students to fundamental biochemical principles relating to disease states. This will include structure and function of biomolecules, biochemical pathways in cells, and cellular processed relevant to diseases and medical disorders. Special emphasis will be placed on reviewing and evaluating peer-reviewed medical literature. Students in this course should have taken at least one previous course in biochemistry.

PMED 01210: INTRO TO PUBLIC HEALTH 3 s.h.
Pre-requisites: Admission to Advanced Premedical StudiesPost-baccalaureate Program atCooper Medical School of Rowan University
PMED 01.210 Introduction to Public Health (3 Credits) {Pre-requisites: Admission to Advanced Premedical Studies Post-baccalaureate Program at Cooper Medical School of Rowan University) This course introduces many fields within the public health system, and the work in measuring health, disease and illness. It offers learners an understanding of population health through multiple disciplines like: epidemiology, biostatistics, environmental and occupational health, social and behavioral health, health policy and management. Students analyze contemporary public health issues such as threats to the nation's food industry, health promoting behaviors related to disease prevention, the burden and distribution of infectious diseases in our nation and globally, public health's role in disaster preparedness and management, and bioterrorism. Students explore the role of law and government (local, state, national, and international) in public health and challenging public health policy issues related to spiraling healthcare costs and addressing the aging population. Students examine environmental and occupational health issues and the impact of future challenges in public health. In many ways, the course will be critical to the student's career in medicine. A firm foundation in the basic science of health and disease processes will ensure that the student is able to apply these principles to their clinical performance as medical students and as practicing physicians. It will be a hybrid course with online lectures and the use of clinical case studies in an active learning environment.

PMED 01220: Applied Medical Ethics 3 s.h.
Pre-requisites: Admission to Advanced PremedicalStudies Postbaccalaureate Program
This is the second humanities course in the postbaccalaureate program. This course provides an overview of current approaches to resolving ethical issues facing clinicians in private office and hospital practices and academic medical settings. This course will serve to enhance the professional development of premedical students as well as provide the academic framework needed for medical school preparation. This course will serve as a valuable resource for students interested in pursuing a career in biomedical sciences. This course is a hybrid course with online content enhanced through and the integration of case studies in active learning environment sessions.

PMED 01310: Medical Biochemistry, A Clinical Approach 3 s.h.
Pre-requisites: Admission to Advanced PremedicalStudies Post-baccalaureate Program
PMED 01.310 Medical Biochemistry, a clinical approach (3 credits) {Pre-requisites: Admission to Advanced Premedical Studies Post-baccalaureate Program at Cooper Medical School of Rowan University) Course Description: Biochemistry is the study of the myriad of chemical processes that occur within living organisms. This course will introduce the major macromolecules of life, including nucleic acids, proteins, carbohydrates and lipids, as interacting partners that provide structure and function to cells. The course will provide the student with a rigorous foundation for application of metabolic principles to other course selections in the Post-Bac program and will be critical to the student's performance in the first and second years of medical school. A firm foundation in the basic science of health and disease processes at the biochemical level will ensure that the student is able to apply these principles to their clinical performance as medical students and as practicing physicians. It will be a hybrid course with online lectures and the use of clinical case studies in an active learning environment. Upon completion of the course, it is expected that students will understand the basic structure and function of the major cellular macromolecules and the processes in which they participate, as well as an understanding of the types of diseases that may develop when cellular chemical processes go awry.

PMED 01320: Cellular Basis of Molecular & Regenerative Medicine 3 s.h.
Pre-requisites: PMED 01.310 and d Admission to Advanced Premedical Studies Post-baccalaureate Program
PMED 01.320 Cellular Basis of Molecular and Regenerative Medicine (3 Credits) {PMED 01.320 Cellular Basis of Molecular and Regenerative Medicine (3 Credits) {Pre-requisites: Medical Biochemistry, a clinical approach PMED 01.310 and Admission to Advanced Premedical Studies Post-baccalaureate Program at Cooper Medical School of Rowan University) Course Description: This course involves the study of the individual eukaryotic cell and tissues and will begin with an introduction to cell theory. Topics that will be discussed are: the structure and functions of the plasma membrane, nucleus, mitochondria, lysosomes, endoplasmic reticulum and the golgi apparatus. The course will then progress to provide the student with a strong understanding of the fundamental concepts of regenerative medicine and stem cell biology and their potential to alter current medical treatment. It will be a hybrid course with online lectures and the use of clinical case studies in an active learning environment. The students will acquire a rigorous foundation for application of cell biology and physiology principles to other course selections in the Post-Bac program which will be critical to the student's performance in the first and second years of medical school. A firm foundation in the basic science of health and disease processes at the cellular level including regenerative medicine will ensure that the student is able to apply these principles to their clinical performance as medical students and as practicing physicians. This course will also serve as a valuable resource for students interested in pursuing a career in biomedical sciences. : Medical Biochemistry, a clinical approach PMED 01.310 and Admission to Advanced Premedical Studies Post-baccalaureate Program at Cooper Medical School of Rowan University) Course Description: This course involves the study of the individual eukaryotic cell and tissues and will begin with an introduction to cell theory. Topics that will be discussed are: the structure and functions of the plasma membrane, nucleus, mitochondria, lysosomes, endoplasmic reticulum and the golgi apparatus. The course will then progress to provide the student with a strong understanding of the fundamental concepts of regenerative medicine and stem cell biology and their potential to alter current medical treatment. It will be a hybrid course with online lectures and the use of clinical case studies in an active learning environment. The students will acquire a rigorous foundation for application of cell biology and physiology principles to other course selections in the Post-Bac program which will be critical to the student's performance in the first and second years of medical school. A firm foundation in the basic science of health and disease processes at the cellular level including regenerative medicine will ensure that the student is able to apply these principles to their clinical performance as medical students and as practicing physicians. This course will also serve as a valuable resource for students interested in pursuing a career in biomedical sciences.

PMED 01410: Medical Genetics 3 s.h.
Pre-requisites: PMED 01.310Admission to Advanced Premedical Studies Post-baccalaureate Programat Cooper Medical School of Rowan University
PMED 01.410. Medical Genetics (3 Credits) {Pre-requisites: Medical Biochemistry, a clinical approach PMED 01.310 and Admission to Advanced Premedical Studies Post-baccalaureate Program at Cooper Medical School of Rowan University) Course Description: Over the last several years, there has been a massive increase in our understanding of the human genome and the implication of genetic changes as they relate to not only genetic disorders but also to cancer and even our responses to pharmacological agents. These advances have ushered in a new age of personalized medicine where it is no longer good enough to diagnose a patient's disorder, but it is now sometimes necessary to identify the nuances of a patient's genetic make-up using molecular diagnostic techniques in order to better tailor therapy. Because medical genetics and molecular diagnostics are quickly becoming an essential part of medical care in many medical fields, it is imperative that students who wish to pursue careers in the biomedical sciences also receive an adequate familiarity with these fields. This course is designed to provide an overview of human genetic concepts and clinical disorders that have a genetic component and will be a hybrid course with online lectures and the use of clinical case studies in an active learning environment. After completing this course, students will have an understanding of the general principles of human genetics and its relevance to modern clinical medicine.

PMED 01420: Human Physiology 3 s.h.
(Pre-requisites: Medical Biochemistry, a clinical approachPMED 01.310 and Admission to Advanced Premedical Studies Post-baccalaureateProgram at Cooper Medical School of Rowan University
PMED 01.420 Human Physiology (3 Credits) (Pre-requisites: Medical Biochemistry, a clinical approach PMED 01.310 and Admission to Advanced Premedical Studies Post-baccalaureate Program at Cooper Medical School of Rowan University) This course will provide a comprehensive overview of human physiology at the molecular, cellular and systems levels. The curriculum will begin with studies of basic cell physiology and extend through complete organ systems. Topics will include basic membrane biology, muscle contraction, cardiovascular, respiratory, renal, gastrointestinal, endocrine, and peripheral nervous systems. The activities of these organ systems are highly integrated and coordinated activity is essential for maintaining a constant physiological environment. Homeostatic mechanisms that regulate these multi organs systems and compensate for perturbations of baseline physiology will be discussed. An important component of this curriculum will be to describe the physiology changes encountered in routine clinical medicine and disease states. Therapeutic treatment options for conditions will be discussed. This curriculum is designed to meet the needs of students interested in pursuing a career in medicine or the biomedical sciences.

PMED 01430: Medical Microbiology 3 s.h.
Pre-requisites: Medical Biochemistry, a clinicall approach PMED 01.310 and Admissionto Advanced Premedical Studies Post-bacProgram at Cooper Medical School of Rowan University
PMED 01.430 Medical Microbiology (3 Credits) (Pre-requisites: Medical Biochemistry, a clinical approach PMED 01.310 and Admission to Advanced Premedical Studies Post-baccalaureate Program at Cooper Medical School of Rowan University) This course introduces basic concepts of general microbiology and host-microbe interactions. The course will begin with a discussion of the structure, metabolism, genetics, growth and control of bacteria and fungi; the structure and mechanisms of replication of bacteriophages and animal viruses; the mechanism of defenses of vertebrates against infectious diseases; the mechanism of transmission of microbes; the strategies for detection of microbes and viruses in clinical specimens; the mechanism of action of antibiotics and antiviral and current and experimental vaccines against infectious diseases. It will be a hybrid course with online lectures and it will use clinical case studies in an active learning environment to increase student's critical thinking skills in medical microbiology. Upon completion of this course the students will have a comprehensive overview and high level of understanding of the diversity of human pathogens, the different types of diagnosis available, their different mechanisms inducing pathogenesis, epidemiology and therapeutic and prevention strategies against infectious diseases.

PMED 01440: Mechanisms of Disease 3 s.h.
Prereq: Admission to the Advanced Premedical Studies PPost-Bac Program and Course: PMED 01310
PMED 01. 440. Mechanisms of Disease (3 Credits) {Pre-requisites: Medical Biochemistry, a clinical approach PMED 01.310 and Admission to Advanced Premedical Studies Post-baccalaureate Program at Cooper Medical School of Rowan University) Course Description: Pathology literally translated means the "study of suffering", but in commonplace usage refers to the study of diseases affecting the human body. As such, Mechanisms of Disease will be a natural continuation of previous courses and will focus on basic pathophysiologic processes that underlie human disease. The course will begin with a discussion of adaptive cellular responses to stress and progress to cell injury and cell death. Specific disease mechanisms or processes that will be considered include: tissue inflammatory and repair responses, immune dysfunction, neoplasia, developmental and genetic disorders, hemodynamic derangements, and environmental and nutritional pathology. The course will provide the student with an understanding of basic disease mechanisms that will enhance their performance in the first and second years of medical school. A firm foundation general Pathology is essential for medical students and practicing physicians. The course will utilize a hybrid model with online lectures and the use of clinical case studies in an active learning environment. Upon completion of the course, it is expected that students will have developed a foundation that can then be further advanced and applied to specific diseases involving the various organ system of the body

CHE 06502: Special Topics In Chemical Engineering 3 to 6 s.h.
This course presents chemical engineering topics related to recent developments in industrial practice or research. May be repeated.

CHE 06506: Process Heat Transfer 3 s.h.
Application of heat transfer to the process industries. Mechanisms of heat transfer; conduction, convection and radiation; Selection and design of heat exchanging equipment, e.g., double-pipe, shell and tube, plate and frame, extended fin heat exchangers. Design parameters for heat transfer with phase change.

CHE 06508: Membrane Process Technology 3 s.h.
Principles of membrane processes: reverse osmosis, ultrafiltration, microfiltration, electrodialysis, pervaporation, gas permeation, and their application to traditional and emerging fields. Membrane materials and structure. Mass transfer and design aspects for both liquid and gas separation systems.

CHE 06510: Biochemical Engineering 3 s.h.
The fundamentals and engineering of bioprocess engineering with emphasis on applying biotechnology to industrial processes. Essential aspects of biochemistry, microbiology and kinetics. Discussion of bioreactor engineering, and recovery and purification processes. Processing applications of engineering kinetics and enzyme technology. Laboratory experiments and demonstrations will be integrated throughout the course.

CHE 06512: Safety In The Process Industries 3 s.h.
This course presents the basic principles, guidelines, and calculations necessary for the safe design and operation of chemical plants and related manufacturing facilities. Topics include: toxics and human exposure, fires and explosions, vessel relief systems, hazard identification and risk assessment, source and dispersion models. Accident investigation is discussed along with a review of actual case histories.

CHE 06514: Transport Phenomena For Engineers 3 s.h.
This course will present the analogies among heat, mass, and momentum transfer. Governing differential equations and their uses in steady-state and unsteady-state systems will be described. Applications will be discussed for mass transfer coupled with heat transfer and/or chemical reaction. Numerical methods and computer applications will be integrated throughout the course.

CHE 06515: Advanced Reactor Design 3 s.h.
Overview of chemical reaction types and ideal reactors. Catalysis and catalytic reactors; analogies for real reactors; fluid flow and heat and mass transfer effects on chemical reactions and reactor design; numerical analyses and simulation of reacting systems; applications in the chemical industry.

CHE 06516: Advanced Separation Process Technology 3 s.h.
This course describes advanced separation processes such as: crystallization and precipitation; adsorption, chromatography and ion exchange; reverse osmosis, ultrafiltration, gas permeation and pervaporation. Commercial system design parameters and laboratory demonstrations will be included. An overview of other novel separation processes will be done.

CHE 06518: Polymer Engineering 3 s.h.
This course provides an introduction to the various aspects of polymer engineering starting with basic polymer properties, structure and function. The major topics covered are the formation of polymer systems and manufacturing techniques. Fabrication processes topics include coating, extrusion and foams. The production of thin-films and membranes will focus on stretching, phase inversion, and hollow fiber spinning. Students will study application of polymeric materials engineering to various industries.

CHE 06520: Green Engineering Design In The Chemical Industry 3 s.h.
This course evaluates process design techniques to minimize waste and by-products in the processing and manufacturing industries. Topics include: mass and heat recycling processes; technologies for process steam renovation, material reuse and recycling methods. Case studies of industrial applications are utilized.

CHE 06528: Fluid Flow Applications In Processing And Manufacturing 3 s.h.
This course will cover the foundation principles of applied fluid mechanics with an emphasis on industrial applications. Topics in mixing, multi-phase fluid flow and processing, and fluidization will be covered. Key technologies from chemical, civil, and mechanical engineering applications will be used to illustrate concepts. The course will provide a strong background in the application of fluid mechanics principles to industrial processing and manufacturing operations.

CHE 06568: Electrochemical Engineering 3 s.h.
This course will focus on the fundamental principles of process electrochemistry. Basic principles of thermodynamics, kinetics and mass transfer as applied to electrochemical systems will be presented. Modeling of electrochemical systems and application of electrochemical principles to corroding systems will be conducted by the students. Engineering case studies of commercial applications in energy conversion and storage and electrolytic processes will be presented.

CHE 06570: Air Pollution Control 3 s.h.
This course introduces students to air pollution control theory. Students design air pollution control processes and specify equipment related to the control of particulate, gaseous, and toxic air emissions. The chemistry required for pollution control process design is presented. The environmental impacts due both to controlling and not controlling emissions are considered. Students design control equipment, specify and troubleshoot control systems and predict the impacts for each major type of control system.

CHE 06571: Biomedical Control Systems 3 s.h.
Prerequisite(s): Graduate standing and approval of Graduate Advisor
This course is an extension of Process Dynamics and Control focusing on the identification and study of biomedical control systems. Students will learn to identify components of physiological control systems and examine the origin of diseases at a systems level. Additional topics include the incorporation of artificial organs into existing physiological control systems, mathematical modeling of biological processes, designing therapeutic strategies, and integrating the results of primary literature into quantitative explanations of diseases.

CHE 06572: Biomedical Process Engineering 3 s.h.
This course introduces students to applications of chemical engineering fundamentals to biomedical systems. Students analyze and design biomedical processes. The basic biochemistry and physiology required for understanding of biomedical systems are presented. Advanced principles of mass transfer, heat transfer, fluid flow and chemical reaction are used to analyze or design drug delivery systems, pharmacokinetic models, the circulatory system, transport across cell membranes, and human and artificial organs. Laboratory experiments and demonstrations will be integrated throughout the course.

CHE 06573: Biomaterials Engineering 3 s.h.
The goal of studying biomaterials is to understand how the body's natural tissues are organized on a compositional, structural, and properties basis. We also seek to understand how the body recognizes and responds to foreign materials, and combine this knowledge in order to successfully design implants that can be used to treat debilitating diseases. The graduate level course emphasizes research literature, including landmark papers and emerging topics, and also includes additional advanced topics in biomaterial design.

CHE 06574: Advances In Particle Technology 3 s.h.
This course introduces students to application of chemical engineering fundamentals in the particle processing industry. Processes involving particles are an important part of the chemical process industry. These processes range from fluidized catalytic cracking of oils to coating processes in the pharmaceutical industry. Students will use advanced principles in fluid flow, heat and mass transport, and kinetics to analyze and design particle manufacturing processes and chemical industry processes involving particles. Novel processes will also be discussed and analyzed.

CHE 06575: Biopharmaceutical and Industrial Fluid Mixing 3 s.h.
Prerequisite(s): Graduate standing and approval of Graduate Advisor
Students in this course will demonstrate the importance mixing of both in biotechnology and the pahrmaceutical industries. The design project in this class will include a product that requires multiple process steps involving multiple phases and complex liquids and chemical reactions. Students will apply single and multi-phase fluid dynamics to the design of an industrial process that includes equipment design. A major objective of the class is to develop equipment designs for the biotechnology and pharmaceutical industry.

CHE 06576: Bioseparation Processes 3 s.h.
This course will focus on the fundamental principles of bioseparation processes. The characteristics of bioseparations will be presented as applied to downstream processing in the pharmaceutical/biotechnology and related industries. Theory and design of filtration, microfiltration, centrifugation, cell disruption, extraction, adsorption, chromatography, precipitation, ultrafiltration, crystallization, and drying will be presented as applied to biosystems. Commercial design considerations, such as sanitary design/sterilization, water quality, solvent recovery, waste disposal and biosafety, will be reviewed.

CHE 06577: Advanced Engineering Process Analysis And Experimental Design 3 s.h.
This course exposes students to advanced engineering applications of process analysis and experimental design. The course includes a multidisciplinary approach with theoretical background to support the course applications. Students will use advanced statistical and optimization techniques for process analysis and experimental design, process monitoring and quality control presently used in industry. The analysis and experimental design techniques presented in this course serve to optimize complex industrially relevant processes and make engineering design and calculations more effective. Applications from a wide range of industries will be presented including pharmaceutical, food, bulk and specialty chemicals, and petroleum industry applications.

CHE 06578: Tissue Engineering 3 s.h.
Prerequisite(s): Graduate standing and approval of Graduate Advisor
Tissue engineering is an expanding field that integrates principles of biology and engineering for the development of tissue substitutes and artificial organs. This course, which utilizes a combined lecture-laboratory approach, will review embryology, cell culture techniques, stem cell biology, cell signaling, cell development and differentiation, biocompatibility, tissue organization and function, biomaterial synthesis/characterization, and structure-function relationships in tissue engineering scaffolds.

CHE 06579: Industrial Process Pathways 3 s.h.
This course will study chemical reaction mechanisms that play crucial roles in the chemical industry. Fundamentals of reaction thermochemistry and reaction kinetics will be discussed. Students will learn to construct mechanistic models of complex, multi-reaction systems, and to apply these models to the solution of practical problems such as yield optimization.

CHE 06580: Optimization Of Engineering Projects 3 s.h.
This course will overview strategies for planning and directing long-term engineering projects. Topics will include project organization, project scheduling, allocation of resources, project optimization and financial analyses.

CHE 06581: Advanced Process Analysis 3 s.h.
This course will examine advanced topics in process analysis including: process consistency, identification of optimal process based on economic analysis, process documentation including flowsheets and budgets, replacement analysis for processing equipment, and rationing limited resources between competing projects.

CHE 06582: Food Engineering Systems 3 s.h.
This course introduces students to the application of fundamental and advanced chemical engineering fundamentals applied to food processing systems. Students analyze and design food engineering processes. The basic and advanced chemistry and biochemistry required for an in-depth understanding of food systems is presented. Basic principles of mass transfer, heat transfer, fluid flow, chemical reaction, process control, and mixing are used to analyze or design food production systems. Computer simulations will be used for the design of food processing systems. Laboratory experiments and demonstrations will be integrated throughout the course.

CHE 06584: Controlled Release Theory, Technology And Applications 3 s.h.
Controlled release systems are designed to provide delivery of an agent at a pre-determined rate for an extended period of time. Controlled release offers several advantages over traditional methods of formulation and administration: maintenance of effective concentrations for a sustained period, less total agent required, cost effectiveness, convenience and compliance. This course investigates controlled release technologies through the application of chemical engineering principles. Knowledge of materials, mass transfer, heat transfer, fluid flow and chemical reactions are used to analyze and design controlled release systems. Applications to pharmaceutical, agricultural, and food industries will be explored. Laboratory experiments and demonstrations will be integrated throughout the course. A project will focus on the development of an original design and fabrication for a controlled release application.

CHE 06585: Engineering Quality Control 3 s.h.
This course exposes students to the state of the art process and product control techniques. This course includes a strong foundation in the fundamentals of engineering quality control and its relevance to process optimization. Students will learn the theory and practical applications of control charting techniques used in industry. Process capability analysis, controller design and control systems architecture will also be included. Students will also be exposed to experimental design and process optimization techniques. The relevance of engineering process control in the safety and profitability of processes and products will be emphasized. Concepts introduced throughout the course will be illustrated with practical examples from a wide range of industries.

CHE 06586: Advanced Engineering Thermodynamics. 3 s.h.
Prerequisites: Graduate standing andapproval of Graduate Advisor.
Applications of classical and molecular thermodynamics to industrial problems in chemical and phase equilibrium. Topics include nonidea solutions, high pressure systems, complex reaction equilibria, generalized correlations, and equations of state.

CHE 06641: Engineering Statistical Process Control 3 s.h.
Prerequisite(s): CHE 06640
This course will introduce students to the industrial tools for engineering process monitoring for safety, quality and profitability. Students will be able to design, construct and implement control charts for a wide range of applications and make decisions regarding the safety, quality and profitability associated with engineering processes. In addition, students will learn the tools to assess process stability and capability. Examples from a variety of engineering processes covering a wide range of engineering applications will be used.

CHE 06642: Quality Control Methods and Metrics 3 s.h.
Prerequisite(s): CHE 06641 and CHE 06640or equivalent
This course will introduce students to industrial quality control methods and the most current techniques for process and product continuous improvement. Students will learn how to quantitatively assess quality and design and implement a quality audit. They will use the engineering statistical tools acquired in pre-requisite courses and learn additional techniques to analyze process quality measures. In addition, students will learn inspection, test and measurement methodologies and acceptance sampling techniques. Examples from a variety of engineering processes covering a wide range of engineering applications will be used.

CHEM 05501: PRINC OF CHEMISTRY 3 s.h.

CHEM 05530: Special Topics In Chemistry 3 s.h.
Selected topics in individual areas of chemistry (analytical, organic, inorganic or physical). Consent of the instructor is necessary. Prerequisites are determined by the nature of the topic. The requirements of this course include a graduate laboratory project and/or research paper. This course may not be offered annually.

CHEM 05544: INTRO TO RESEARCH 3 s.h.

CHEM 05550: Advanced Seminar 1 s.h.
Oral presentation of scientific studies and data at the graduate level. The talks are accompanied by 35 mm slides prepared by the student. Attendance at South Jersey American Chemical Society meetings is required. This course may not be offered annually.

CHEM 06100: Chemistry I (Lecture And Lab) 4 s.h.
This course presents the basic principles involved in the study of chemistry. It emphasizes modern theories and laws used in the understanding of the structures and reactions of the elements and compounds and also includes gas laws, stoichiometry, and solution theory.

CHEM 06101: Chemistry II (Lecture And Lab) 4 s.h.
Prerequisites: CHEM 06100 or CHEM 06105
This course is a continuation of CHEM06.100. It covers these topics: equilibria, including acids and bases, complexes, and sparingly soluble compounds, thermodynamics, kinetics, electrochemistry, and solution theory. Descriptive inorganic chemistry is also covered.

CHEM 06400: Advanced Inorganic Chemistry Lecture 3 s.h.
Prerequisite: CHEM 08400
This course covers concepts and models of inorganic chemistry. It encompasses molecular geometries and other physical and chemical properties on the basis of the several chemical bonding theories and with reference to the periodic table. Students study the chemistry of both main group and d-block transition elements.

CHEM 06401: Advanced Inorganic Chemistry Laboratory 2 s.h.
Prerequisite: CHEM 06400 with concurrency allowed.
This course covers concepts and models of inorganic chemistry in the laboratory setting. Students study both main group and transition element chemistries. The laboratory component emphasizes the synthesis and characterization of inorganic compounds.

CHEM 07200: Organic Chemistry I (Lecture And Lab) 4 s.h.
Prerequisites: CHEM 06101 or CHEM 06106
This course studies the chemistry of carbon compounds and their properties, structures and reactions. It emphasizes the study of the principle classes of aliphatic and aromatic compounds, which in conjunction with selected experiments, gives an understanding of the mechanisms of organic reactions. Required for science majors.

CHEM 07201: Organic Chemistry II (Lecture And Lab) 4 s.h.
Prerequisites: CHEM 07200
This course is a continuation of CHEM07.200. Required for science majors.

CHEM 07348: Biochemistry (Lecture And Lab) 4 s.h.
Prerequisites: CHEM 07201 or CHEM 07202
This course deals with chemical compounds and reactions important to the functioning of biological systems and includes a discussion of the metabolic pathways for energy production and biosynthesis.

CHEM 07531: Special Topics In Biochemistry 3 s.h.
This course covers special topics in individual areas of biochemistry. Specific prerequisites are determined by the nature of the course when it is announced.

CHEM 07548: Biochemistry 4 s.h.
This course is concerned about Chemical compounds and chemical reactions which are of paramount importance to the functioning of biochemical systems. The major metabolic pathways for energy production and biosynthesis are examined. Laboratory experiments reinforce and expand the lecture material. The requirements of this course include a graduate laboratory project and/or research paper. Admission to the course will be at the discretion of the Graduate Advisor. This course is taught in the Chemistry and Biochemistry Department.

CHEM 07557: Chemical Biology 3 s.h.
The goal of this course is to describe how chemistry is applied to biochemical and biological systems to answer specific questions. It examines the use of small, synthetic molecules that are used as probes of biochemical function as well as how to design experiments using these molecules. The course also encompasses the use of purely synthetic compounds as functional or structural mimics of biological molecules. The methods and techniques used to measure designed interactions will also be discussed.

CHEM 07558: Advanced Biochemistry 4 s.h.
This course provides an in-depth study of the principles involved in biological processes. It emphasizes the significance of biochemical reactions and regulations as well as mechanisms. A thorough elucidation of structure, function and mechanism will be presented. The overall strategy of living systems will be illustrated. Laboratory experiments will provide exposure to representative procedures and some important modern techniques. Students are encouraged to design their own molecular biology experiments using the facilities provided. A term project is incorporated into this course. Students are required to conduct an in-depth review of the literature regarding a topic.

CHEM 07560: Advanced Biochemistry Lecture 3 s.h.
Prerequisites: CHEM 07348 or CHEM 07548
This lecture course deals with complex biochemical processes involving the interaction of numerous classes of biomolecules. Specifically the course focuses on the interplay of proteins, lipids, carbohydrates, and nucleic acids in the cellular response and adaptation to the environment, both locally in the cell and of the organism as a whole. The course relies on both traditional descriptions of biochemical processes and the inclusion of primary literature sources to analyze experimental data, explain methodology, and introduce cutting edge concepts.

CHEM 07561: Advanced Biochemistry Laboratory 2 s.h.
Prerequisite: CHEM 07560 (may be takenconcurrently)
This laboratory course deals with isolation and characterization of molecules from biochemical systems. The fundamentals and applications of chromatographic, electrophoretic, and spectroscopy techniques applied to biological molecules are taught through laboratory projects.

CHEM 07564: Advanced Organic Synthesis 3 s.h.
Prerequisite: CHEM 07201 OR CHEM 07202
This course will provide and in-depth overview of several synthetically useful chemical methodologies, reagents, and reactions that are essential in synthesis of organic pharmaceuticals. Some of the general categories of reactions to be discussed in this course include reduction, oxidation, protecting groups, and carbon-carbon bond forming reactions. This course will survey a broad and diverse range of enantioselective, diastereoselective, chemoselective, and/or regioselective chemical transformations critical for the preparation of medicinal compounds. This course would suit the needs of graduate and senior undergraduate students who intend to pursue careers in the field of pharmaceutical sciences.

CHEM 07565: Organic Reactions And Mechanisms 3 s.h.
An advanced presentation of the major classes of organic chemical reactions, with the major emphasis being placed upon the detailed mechanisms of such reactions. Modern organic theory is included. The requirements of this course include a research paper or individual project. Admission to the course will be at the discretion of the graduate adviser. This course may not be offered annually.

CHEM 07567: ADV ORGANIC PREPARTN 3 s.h.

CHEM 07568: Medicinal Chemistry 3 s.h.
This course describes various topics related to the biochemical principles and metabolic pathways with particular emphasis on pharmaceutical applications and biotechnology. This course will focus on the molecular mechanisms of drug action and chemical basis for drug therapy. Current methods used to study medicinal chemistry including recombinant DNA, combinatorial chemistry and bioinformatics, will be reviewed. A 3-D molecular modeling of drug targets and drug design will be integrated throughout the course. Clinical trials of drug case study are included. A term project is incorporated into this course. Students are required to conduct an in-depth review of the literature regarding a topic.

CHEM 07570: Organic Spectroscopy 3 s.h.
This is a laboratory course with class discussion on the separation and identification of organic compounds. Both classical and instrumental techniques are used in compound structure determination. Lecture emphasis is placed on interpreting IR, NMR, and mass spectra. The requirements of this course include a graduate laboratory project and/or research paper. Admission to the course will be at the discretion of the graduate adviser. This course may not be offered annually.

CHEM 07572: Advanced Organometallic Chemistry 3 s.h.
Prerequisite: CHEM 07201 OR CHEM 07202
This course covers the chemistry of organometallic compounds and their applications in organic synthesis, and pharmaceutical industry. Some of the topics discussed in this course include the study of physical and chemical properties, characterization, analysis, and preparation of organometallic compounds, along with advanced organometallic reaction mechanisms such as substitution, addition, elimination, and insertion, etc. The course is designed for pharmaceutical sciences students and includes submission of a written report on original research literature in organometallic chemistry.

CHEM 07575: POLYMER CHEMISTRY 3 s.h.

CHEM 07590: General Aspects Of Pharmacology 3 s.h.
Prerequisite: CHEM 07201 OR CHEM 07202
This course attempts to provide an understanding of the basic principles and mechanism in pharmacology. Some of the topics discussed include pharmacodynamics and pharmacokinetics of drugs, and their interactions with the living tissues. It also provides a fundamental knowledge about the mechanism of action, structure-activity relationships, and interaction of therapeutics with physiological system and metabolism of drugs.

CHEM 07592: Advanced Pharmaceutical Chemistry 3 s.h.
Prerequisite: CHEM 07201 OR CHEM 07202
This course covers the structure, properties, preparation, and analysis of organic and inorganic pharmaceutical drugs. Some of the topics that will be discussed include pharmacognosy, organic and inorganic pharmaceuticals, solubility characteristics and properties of these compounds under biological conditions, etc. The course is designed for pharmaceutical sciences students and includes submissions of a written report on original research literature in pharmaceutical chemistry.

CHEM 07595: Bioinformatics - Advanced Biochemical Applications 3 s.h.
Prerequisites: CHEM 07348 or CHEM 07548 or BIOL 14440
This introductory course in bioinformatics covers the application of modern computational methods to the fundamentals of molecular biology (protein and DNA structure, transcription and translation). The biochemical tools of molecular biology will be discussed. Methods of aligning DNA sequences will be studied in relation to mutations, phylogenic tree analysis, forensic science, and genetic diseases. Algorithms for protein structure prediction, microarray technology and gene expression will be explored. Computer based lab exercises will support the topics presented. Students will be required to do a literature based research project.

CHEM 08400: Physical Chemistry I (Lecture) 3 s.h.
Prerequisite(s): (CHEM 07201 or CHEM 07202) and (MATH 01131 or MATH 01141) and (PHYS 02201 or PHYS 00222 or PHYS 02203 or PHYS 00211 or CHE 06302)
This course deals with the problems of the fundamental principles underlying physical chemistry. It gives major emphasis to thermodynamics, kinetics and quantum mechanics. It also includes spectroscopy, group theory and statistical mechanics. MATH01.230 recommended.

CHEM 08401: Physical Chemistry II (Lecture) 3 s.h.
Prerequisites: PHYS 08400 or CHEM 08400
This is a continuation of CHEM08.400

CHEM 08505: Advanced Biophysical Chemistry 3 s.h.
Prerequisites: (CHEM 07201 OR CHEM 07202) AND (MATH 01130 OR MATH 01140)
This is a graduate-level Biophysical Chemistry cousre, which focuses on applications of physical chemistry concepts and methods to biological systems. Topics cover the basic concepts of thermodynamics, reactions kinetics and spectroscopyk, etc. Additionally, various specific biophysical chemistry topics and experimental techniques are to be discussed. The course will equip students with a strong theoretical background to understand advanced topics covered in other courses. Students will be additionally required to complete an independent literature report as directed by the instructor.

CHEM 08510: Advanced Survey Of Molecular Modeling Methods 3 s.h.
Prerequisites: (CHEM 07201 OR CHEM 07202) AND (MATH 01130 OR MATH 01140)
This survey course emphasizes the applications of molecular modeling theory and simulations in chemistry and biochemistry. The course will present to students a broad and in-depth knowledge of different modeling concepts and methodologies, and provide students opportunities to apply modern computational software to investigate molecular structures, chemical reactions, and biomolecular processes such as enzyme catalysis and protein conformational changes, etc. The topics will include quantum chemistry calculations, molecular mechanics, molecular dynamics simulations, in silico drug design, etc. This course is ideal for Chemistry, Biochemistry, Bioinformatics, and Pharmaceutical Science students.

CHEM 09250: Quantitative Analysis (Lecture And Lab) 4 s.h.
Prerequisites: CHEM 06101 or CHEM 06106
This course provides lecture and laboratory experience in classical methods of gravimetric and volumetric analyses as well as electrical and spectroscopic analyses.

CHEM 09510: Instrumental Analysis 4 s.h.
The theoretical basis, construction, and data interpretation of most instruments used by chemist are studied. Among the instruments considered are visible, UV, IR, NMR, AA, fluorescence, flame emission, and mass spectrometers. Electroanalytical, potentiometric, conductometric, electrogravimetric, and voltametric methods of analysis are used. Laboratory experiments allow "hands-on" use of representative instruments. The requirements of this course include a graduate laboratory project. Admission to the course will be at the discretion of the graduate adviser. This course may not be offered annually.

CHEM 09522: Advanced Bioanalytical Chemistry 3 s.h.
Prerequisites: CHEM 09250 AND CHEM 07348
This course will focus on the details of analysis of biomolecules using a variety of analytical techniques including liquid chromatography, electrophoresis and capillary electrophoresis. A thorough discussion of mass spectometry technique, as applied to biomolecules, will be conducted. This course will also introduce students to different DNA analysis techniques and electrochemical biosensors in biology and medicine. This also includes the analytical centrifugation methods as used in determination of molecular weight of biomolecules. This course prepares students for graduate school, careers in pharmacy, medical, and forensic among others.

CHEM 09592: Pharmaceutical Techniques I 3 s.h.
Prerequisite(s): CHEM 07201 OR CHEM 07202
This course is intended to provide dedicated training for students in the design of research projects and their implementation in a laboratory setting. The course will offer students the opportunity to focus on the preliminary aspects of research design and implementation in one or more sub-disciplines of chemistry relating to the pharmaceutical sciences. Students will be expected to (a) retrieve, understand and evaluate prior contributions in the identified area of study and (b) design and implement hypoyjesis-driven studies within this area of study.

CHEM 09593: Pharmaceutical Techniques II 3 s.h.
Prerequisite(s): CHEM 07201 or CHEM 07202
This course is intended to provide dedicated training for students in the chemical, biochemical and computational analysis of the chemical entities with relevance to the pharmaceutical sciences via spectroscopic and other characterization techniques. The course will offer students the opportunity to focus on the preliminary aspects of research design and implementation in one or more sub-disciplines of chemistry relating to the pharmaceutical sciences. Students will be expected to (a) understand, evaluate and discuss scientific information from the primary literature and (b) design and implement research or computational experiments and (c) analyze project outcomes and research data.

CHEM 09594: Pharmaceutical Techniques III 3 s.h.
Prerequisite(s): CHEM 07201 or CHEM 07202
This course is intended to provide dedicated training for students in the development of professional, environmental and ethical best practices in the context of pharmaceutical research. The course will offer students the opportunity to focus on managing professional, environmental and ethical challenges in one or more sub-disciplines of chemistry relating to the pharmaceutical sciences. Students will be expected to retrieve, understand and evaluate prior examples of professional, environmental and/or ethical challenges the indentified area of study.

CHEM 09596: MS Thesis Research I 3 s.h.
Prerequisite: CHEM 07201 OR CHEM 07202
This course provides individual laboratory research exploration of a topic beyond the scope of the existing courses. The research performed would be instructor/advisor specific and is based on the current research being performed in the department. The students would be expected to (a) conduct basic and applied research in pharmaceutical sciences, (b) retrieve and review research literature, (c) provide periodic updates and project reports, and (d) write manuscripts for publication in scientific journals or presentations at conferences and meetings.

CHEM 09597: MS Thesis Research II 3 s.h.
Prerequisite: CHEM 09596
This is a continuation course for MS Thesis Research I. The students in this course would either expand upon existing research projects from their earlier course, or start newer research projects, which will be determined on an individual case by case basis. The students would be expected to (a) conduct basic and applied research in pharmaceutical sciences, (b) retrieve and review research literature, (c) provide periodic updates and scientific project reports, and (d) write manuscripts for publication in journals or scientific presentations at conferences and meeetings.

CHEM 09598: MS Thesis Research III 3 s.h.
Prerequisite: CHEM 09597
This is a continuation course for MS Thesis Research II. The students in this course would either expand upon existing research projects from their earlier course, or start newer research projects, which will be determined on an individual case by case basis. The students would be expected to (a) conduct basic and applied research in pharmaceutical sciences, (b) retrieve and review research literature, (c) provide periodic updates and scientific project reports, and (d) write manuscripts for publication in journals or scientific presentations at conferences and meetings.

CHEM 09599: MS Thesis Research IV 3 s.h.
Prerequisite: CHEM 09598
This is a continuation course for MS Thesis Research III. The students in this course would either expand upon existing research projects from their earlier course, or start newer research projects, which will be determined on an individual case by case basis. The students would be expected to (a) conduct basic and applied research in pharmaceutical sciences, (b) retrieve and review research literature, (c) provide periodic updates and scientific project reports, and (d) write manuscripts for publication in journals or scientific presentations at conferences and meetings.

CEE 08503: Special Topics Civil Engineering 1 to 3 s.h.
Civil engineering topics related to recent developments in industrial practice or engineering research. May be repeated.

CEE 08504: Engineering Estimating 3 s.h.
The course deals with the development of engineering estimates for civil engineering projects and project components including labor, materials and equipment. Total project costs including direct and indirect costs, field and home-office costs, and contingency are covered. Also covered are the various types of civil engineering estimates including piles and cofferdams, wellpoints and earthdrilling, water and sewer systems, road and highway pavements, concrete buildings and bridges, and steel buildings and bridges. The course includes appropriate computer applications.

CEE 08507: Prestressed Concrete 3 s.h.

CEE 08512: Advanced Environmental Treatment Process Principles 3 s.h.
Topics in Fundamentals of Physicochemical Processes in Environmental Engineering such as Adsorption, Coagulation/Flocculation, Filtration, Sedimentation, Disinfection, Ion Exchange, Chemical Oxidation, Corrosion and Membranes.

CEE 08513: Environmental Management 3 s.h.
This course deals with integrated environmental management issues and methodologies with a global perspective. Topics include environmental decision-making from a socio-economic and environmental standpoint, environmental data collection, analysis, and management techniques for environmental assessment and feasibility case studies. The course is intended to give students an understanding of current environmental issues and tools for analysis of data for environmental management. The issues are examined from the worldwide perspectives of science, engineering, business and society. The course will culminate in an original research project and presentation.

CEE 08522: Site Remediation Engineering 3 s.h.
Topics in site remediation engineering, including site characterization, site safety, modeling site conditions, conducting feasibility studies, and designing remediation systems, such as pump and treat, stabilization, containment, treatment walls, natural attenuation, enhanced bioremediation, phytoremediation, oxidation, soil flushing, and soil vapor extraction.

CEE 08531: Solid And Hazardous Waste Management 3 s.h.
The course deals with solid and hazardous waste sources, regulations and management; engineering principles, treatment and disposal methods; design of landfills; recycling; toxicology principles; and risk assessment. The course includes appropriate laboratory experiments and computer applications.

CEE 08532: Pollutant Fate And Transport 3 s.h.
Topics include Characteristics and Properties of Organic Pollutants, Aquatic Chemistry, Transport Mechanisms for Pollutants (Adsorption, Retardation, Attenuation, Volatilization, Biodegradation), Groundwater (Properties, Flow Equations, Transport in Porous Media) and Mathematical Modeling.

CEE 08533: Integrated Solid Waste Management 3 s.h.
The course deals with the theories and principles of integrated solid waste management as applied to real-world analysis and design problems. The course covers the design of facilities and programs, such as landfills, composting facilities, transfer stations, collection programs, and drop-off centers, and planning of integrated systems for municipalities and counties. Computer applications are included.

CEE 08541: Advanced Surface Hydrology 3 s.h.
This course is to increase knowledge on the application of advanced hydrologic methods to water resources problems. Specifics include the use of probabilistic techniques to characterize hydrologic processes. Such analyses are characterized by data collection, analysis and interpretation, simulation, and forecasting. The level of understanding should, upon completion of the course, be sufficient to understand and appreciate the important issues in the current literature where statistical and optimization methods are used in prediction and interpretation of hydrologic processes. Synergy between hydrological processes and environmental quality, hydrometeorology, global warming, informatics, and ecology and conservation will be discussed.

CEE 08542: Advanced Hydrometerology 3 s.h.
This course introduces advanced topics in hydrometeorology to the students and latest technologies used by water resources engineers for understanding, modeling and simulating the global water issues. This course will investigate the relationship between hydrology and meteorology and focus on key processes including precipitation, stream and ground water flow, flooding, water chemistry and contamination, and water resource management. A large component of the course will include collecting and analyzing data, estimating stream flow, and using spreadsheet and graphic programs to monitor water levels following precipitation events. Students in the class will use state of the art software to analyze the collected datasets. Topics included in this course are intended for students engaged in environmental and water resources engineering. The course is designed for students that are familiar with key concepts from courses in mathematics, hydrology, and water monitoring.

CEE 08543: Advanced Water Resources Engineering 3 s.h.
This course covers advanced topics in water resources engineering including the analysis and design of advanced hydraulic structures, hydraulic similitude and modeling, wave action, and advanced hydrology.

CEE 08544: Hydraulic Design 3 s.h.
The course focuses on the design and analysis of structures for controlling and conveying water in both the built and natural environment. Topics covered vary from year to year based upon instructor and student interests. Past topics have included open channel flow design, dams and spillways, sanitary and storm sewers, culverts, pumping stations, turbomachinery, and hydraulic similitude and modeling.

CEE 08545: Water and Environmental Monitoring 3 s.h.
The course focuses on the engineering study of fluid flow in the environment. Advanced topics in water resources engineering are explored, with content varying based upon instructor and student interests. Past topics have included open channel flow, hydrology, fish passage at hydraulic structures, sediment transport, mixing in natural water bodies, and water quality modeling.

CEE 08546: River Engineering 3 s.h.
This course presents the theory and analytical techniques for the design and analysis of engineering projects that control or convey water in open channel systems. Topics include sediment transport, design of hydraulic structures, river restoration, and computer modeling. The course will culminate in an original research project and presentation.

CEE 08547: Watershed Engineering 3 s.h.
This course presents the theory and analytical techniques for the design and analysis of stormwater management projects. Topics include environmental law, stormwater mitigation structures, rainfall-runoff analysis, limnology, and computer modeling. The course will culminate in an original research project and presentation.

CEE 08548: Water and Environmental Monitoring 3 s.h.
Prerequisite: Graduate Standing or Instructor Permission
Introduces the latest and techniques used by water resources and environmental engineers for mapping, modeling and monitoring. The applied goal of this class is to develope an understanding of water and environmental spaces and how maps represent them. This course will provide an overrview of the application of advance geographic information system, remote sensing and complex mapping in water ressources and environmental engineering. Students will use satellite images to extract data and produce viable information. Students will become familiar with state of the art software in romoet sensing and mapping.

CEE 08552: Foundation Engineering 3 s.h.
The fundamental theme of the course is the analysis and design of structural building and bridge foundations based on advanced principles of soil mechanics. These advanced principles of soil mechanics include compressibility, shear strength, and bearing capacity. The types of foundations analyzed and designed include spread footings and pile foundations. The course includes appropriate computer applications.

CEE 08553: Earth Retaining Systems 3 s.h.
The fundamental theme of the course is earth retaining systems including advanced principles of soil mechanics and analysis and design of earth retaining systems. The advanced principles of soil mechanics include lateral soil pressure and slope stability. The analysis and design of earth retaining systems includes slopes, embankments, retaining walls and other systems. The course includes appropriate laboratory experiments and computer applications.

CEE 08562: Advanced Transportation Engineering 3 s.h.
The fundamental theme of the course is the study of advanced topics in transportation engineering including advanced highway engineering and advanced mass transit systems. These advanced topics include the impact and interaction of sociological, economic, geographic and environmental factors on transportation systems. The course includes appropriate field measurements and computer applications.

CEE 08564: Advanced Design Of Elements Of Transportation Engineering 3 s.h.
The fundamental theme of the course is the study of advanced topics in highway design and analysis, signalized and un-signalized intersection design, forecast travel demand modeling and transportation planning. Topics covered vary from year to year based upon instructor and student interests. This course also includes field measurements and computer applications.

CEE 08565: Advanced Pavement Analysis and Evaluation 3 s.h.
Prerequisite(s): CEE 08361
The fundamental theme of the course is the engineering study of pavement response. The topics covered include non-linear behavior of pavement materials and interaction between tires and pavements. Modeling and analysis of pavement behavior will also be taught, with content varying based upon instructor and student interests. The course includes field experiments and computer applications.

CEE 08566: Transportation Systems Modeling 3 s.h.
Prerequisite: Graduate Standing or permission of theinstructor
Introduces latest technologies and techniques used by transportation planners and engineers to study current travel characteristics and estimate future travel demand and supply. This course focuses on urban travel characteristics and activity analysis, travel demand and supply analysis, transportation system and project evaluation, and program and project implementation strategies. The course will (1) introduce concepts, procedures and methods associated with transportation planning; (2) provide basic knowledge of travel demand forecasting models; and (3) provide basic knowledge of relevant travel demand modeling software. The proposed course is designed for both undergraduate and graduate students who want to develop their career in transportation engineering and planning. Students in this class will deliver research papers/reports beyond those expected for students in CEE 08466, Introduction to Urban Transportation Planning.

CEE 08568: Intelligent Transportation System 3 s.h.
The course will focuses on systems engineering & Intelligent Transportation System (ITS) fundamentals and design of regional ITS fundamentals. The course will introduce selected tools required to plan, design, implement and evaluate ITS projects. Students will work on projects that require data collection, simulation and analysis using various tools. The course is designed to investigate multidisciplinary aspects of ITS design and plan solutions for current and future transportation system.

CEE 08573: Advanced Structural Analysis 3 s.h.
The course deals with the matrix method of structural analysis. The topics covered include structural members, member joints, member end conditions, local and global coordinate systems, coordinate transformation, member structural matrices, global structural matrices, condensation of global structural matrices, static structural analysis, and dynamic structural analysis. The course will include appropriate computer applications.

CEE 08574: ADV STRUCTURAL MECHANICS 3 s.h.

CEE 08575: Advanced Fatigue And Fracture 3 s.h.
This course presents the theory and analytical techniques to design structural components for cyclic loading. Topics include linear elastic fracture mechanics; S-N fatigue; fatigue crack growth; and algorithms for simulating three-dimensional crack propagation. The course culminates with an original research project, resulting in both oral and written reports.

CEE 08583: Advanced Steel Design 3 s.h.
Prerequisite: CEE 08383
This course addresses advanced topics not covered in a first course in steel design including topics such as design of plate girders, connections, and structural frames bracing. Historic and current research that is the foundation of code requirements will be discussed.

CEE 08584: Prestressed Concrete 3 s.h.
The course focuses on analysis and design of prestressed concrete members for highway bridges, parking structures, office buildings and industrial buildings. Topics covered include prestressed construction applications and materials, flexural analysis of pretensioned and post-tensioning beams, bending and shear design, loss of prestress, deflection and composite beams. The course includes appropriate computer applications.

CEE 08585: Advanced Reinforced Concrete 3 s.h.
The emphasis is the design of advanced reinforced concrete structures and structural components not covered in an introductory reinforced concrete design course. Topics include columns in bending, slender columns, slab systems, and other advanced topics in reinforced concrete.

CEE 08586: Bridge Engineering 3 s.h.
The analysis and design of modern steel highway bridges utilizing the bridge code of the American Association of State Highway and Transportation Officials is emphasized. The topics covered include bridge loads, load combinations, design methods, reinforced concrete deck slabs, steel wide-flange stringer bridges, steel composite wide-flange stringer bridges, continuous bridge spans, steel composite plate-girder bridges, elastomeric bearing connections, steel fixed bridge connections, and steel roller bridge connections. The course includes appropriate computer applications.

CEE 08603: Special Topics for Doctoral Students in Civil Engineering 3 s.h.
This course presents timely coverage of specific advanced and emerging topics in civil engineering, and it is intended for doctoral students. Special topics courses may be traditional classroom-based courses as well as research-related courses supervised by specific advisers. This class may be taken multiple times when offered with different special topics content.

CEE 08675: Fracture Mechanics 3 s.h.
This course covers the behavior of cracks in bodies, and has a wide range of applications. Discussion focuses on the treatment of the singular stress and strain fields that occur near crack tips, with particular emphasis on fracture mechanics parameters such as K, G and J. Course material will include both elastic and plastic behavior. Both approximate and exact approaches will be considered. Numerical and analytical solutions and solution techniques will be presented. This course might not be offered annually.

CM 01301: Fundamentals of the Construction Industry I 3 s.h.
Corequisite: CM 01302
This course provides a general overview of the planning, administration, management, and cost of construction projects and an introduction to the methodology used in executing specific designs. Emphasis is placed on the organization of construction firms, use and types of primary construction equipment, estimating and quantity take-offs, contractual and management systems, scheduling, project administration, and inspection of construction operations.

CM 01302: Fundamentals of the Construction Industry II 3 s.h.
Prerequisite: CM 01301
This course introduces the design process and development of construction documents. It covers the standard design phases: programming, conceptual design, schematic design, design development, construction documents and construction administration, and the format and utilization of project manuals including contract specifications, the interpretation and analysis of engineering plans and specifications, and the new technologies being used in the design including Building Informational Modeling (BIM) and sustainable (green) practices. The course also explores the various common project delivery methods.

CM 01303: PROJECT BUILDING SYSTEMS 3 s.h.
Prerequisites: CM 01301, CM 01302
Students will learn the description and identification of the equipment and materials used in mechanical systems for heating, ventilating and air conditioning, electrical, plumbing, fire protection, piping, gas, lighting, water and waste water, conveyance, life safety systems, environmental, security, audio/visual, and building system controls. The course also provides and introduction to building structural and envelopes systems.

CM 01304: PROJECT ADMINISTRATION 3 s.h.
Prerequisites: CM 01304 (Fundamentals of the ConstructionIndustry Ii).
This course provides exposure to and use of various types of projects control systems for project efficiency and documentation. Students will learn how the submittal process operates and is monitored. They will also be shown a variety of tools used in tracking project documentation, and essential elements related to contract law and administration.

CM 01305: CONSTRUCTION COST ESTIMATING 3 s.h.
Prerequisites: CM 01302 (Fundamentals of the ConstructionIndustry II)
Introduction to various costs of construction including direct and indirect project costs, comparison of hard and soft costs, job cost analysis and forecasting of cost to completion, labor, material and equipment expenses, cash flow, overhead, profitability, and general conditions costs. Students will learn research techniques used to create accurate estimating and bidding procedures.

CM 01306: Construction Project Planning and Scheduling 3 s.h.
Prerequisites: CM 01301, CM 01302
Students will learn procedures used in project planning and scheduling that employ float methods of scheduling logic. They will examine the critical path series of activities of project completion, including the use of computer software applications for problem solving, and related tools, spreadsheets, and information management. Also covered are work breakdown structures, activity durations, status reports, resource allocation, re-planning, monitoring, and updating of projects. Students will develop projects site logistics plans.

CM 01407: Advanced Leadership and Communication 3 s.h.
Prerequisites: CM 01302 (Fundamentals of the ConstructionIndustry II)
The course is designed to teach students to become more effective leaders and communicators in the construction industry. Drawing on various case studies, students will examine ethical practices in the industry. They will define and role-play effective communications strategies that simulate situations they may encounter within the industry such as general-to-subcontractor, corporate, and labor relations. Students in this course will also examine principles of negotiation and dispute resolution in the construction industry.

CM 01408: Industrial Relations in the Construction Industry 3 s.h.
Prerequisites: CM 01302 (Fundamentals of the ConstructionIndustry Ii).
This course examines various perspectives (union, management, government) on the collective bargaining system in place in the construction industry. Topics include the legal and regulatory environment, problem solving, and the roles of labor and corporations.

CM 01409: Building Energy Systems for Construction Managers 3 s.h.
Prerequisites: CM 01302 (Fundamentals of the ConstructionIndustry II) AND CM 01303 (Project Building Systems).
The Building Energy Systems for Construction Managers course provides a conceptual understanding of functions and performances of energy systems including mechanic al, electrical, electronic, and plumbing and transport systems in residential and commercial buildings. The course also provides information on integration between energy systems and other building components. While introducing the concepts of alternative energy sources, energy efficiency, structural implications of mechanical systems, indoor air quality, and environmental control strategies, the course familiarizes students with more recent and current efforts in sustainability and green building ideas. The course also introduces codes and standards relevant to energy devices used in building construction, such as National Fire Protection Association (NFPA), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and National Electrical Code (NEC).

CM 01410: BUILD CONSTRUCTION SYS & CODES 3 s.h.
Prerequisites: CM 01302 (Fundamentals of the ConstructionIndustry Ii).
This course provides a conceptual understanding of functions and performance of structural building systems. The primary purpose of this course is to provide familiarity with use of construction code with reference to International Building Codes (IBC) 2012. For anyone in the field of construction or construction management it is necessary to know about the concepts and fundamental aspects of the code. As a result, the course is intended to provide an understanding of how the code was developed, how it is to be interpreted, and how it is applied to design and construction of buildings, the goal of the course is to make implementation of the code easier, and clearer to understand. Other than discussions on structural elements and their construction methods, the course covers issues such as use and occupancy, types of construction, fire-resistive constructions, interior finishes, building material, inspections, and tests.

CM 01411: Construction Safety and Loss Prevention 3 s.h.
Prerequisites: CM 01302 (Fundamentals of the ConstructionIndustry II).
This course offers a practical guide for eliminating safety and health hazards from construction worksites. The Handbook of OSHA Construction Safety and Health addressed the occupational safety and health issues faced by those working in the construction industry. The course covers a vast range of issues including program development, safety and health program implementation, intervention, and prevention of construction incidents, regulatory hazards faced by those working in the construction industry and sources of information. The course also features updates for construction regulations, construction job audit, training requirements, and OSHA regulations. It includes new record keeping guidelines and forms with additional material on focused inspections. Containing updated contact information for the newest agencies, the course also presents a model safety and health program, examples of accident analysis and prevention approaches.

CM 01412: CAPSTONE PROJECT 3 s.h.
Prerequisites: CM 01410 (Building Construction Systemsand Codes).
In the course, students will build on what they have learned in the major, integrating the theory and knowledge that they gained in class with practical experience in the construction industry. Capstone projects are developed through a series of project meetings between the student and program faculty.

EM 01501: ENGINEERING ECONOMICS 3 s.h.
This course covers a variety of topics in engineering economics including the following: making economics decisions, equivalence and the time value of money, spreadsheets and economic analysis, present worth and equivalent annual worth, internal rate of return, benefit?cost ratios and breakeven analysis, replacement analysis, depreciation and income taxes, inflation, value engineering, and decision-making tools.

EM 01511: Strategic Risk Management 3 s.h.
This course deals with a range of topics related to risk management including the following: risk terminology, tools for quantitative analysis of environmental and technological risks, social risk issues, risk in modern life, statistical analysis, data presentation, dose-response models for carcinogens, model limitations, models of risk aversion, psychological and community perceptions of risk, risk communication, environmental and health risk issues in the media, and case studies of accidents and incidents.

EM 01512: Quality In Engineering Management 3 s.h.
This course covers a range of topics related to quality in engineering management including the following: concepts and philosophy of engineering quality management, leading engineers, data analysis, engineering quality assurance and results, engineering quality methods and tools, continuous process improvement, total quality management within engineering, six-sigma, quality costs, customer satisfaction in relation to engineering design and quality, vendor relationships and quality, benchmarking engineering practices and products, statistical process control, quality function development, and case studies of quality in engineering management.

EM 01513: Engineering Decision Making 3 s.h.
This course covers the following topics related to engineering decision making: mathematical decision tree equations, mathematical programming for optimization of engineering problems, the theory behind methods and models, advanced statistical models for engineering analysis, advanced linear and non-linear models for engineering analysis, practical applications of decision methods and models to engineering problems, and identifying and balancing risk associated with technology development. Case studies dealing with real engineering projects and problems are included.

EM 01521: Construction Management 3 s.h.
This course covers the following topics related to construction management: project managers, developers, designers, contractors, and subcontractors; project startup, construction, and closeout; project financing; control of costs and schedule; construction contract types, bidding, delivery methods, and changes; bonds and insurance; inspection of work; claims, disputes, and arbitration; and case studies in construction management.

EM 01522: Construction Scheduling 3 s.h.
This course deals with the following topics in construction scheduling: scheduling terminology and history; time and duration of activities; relationships between project activities; critical path method (CPM); program evaluation and review technique (PERT); delays and other constraints; schedule development, analysis, and updating; and case studies of project construction schedules.

EM 01523: Cost Engineering 3 s.h.
This course covers a wide variety of topics related to cost engineering including the following: measuring work progress using costs, manhours, and schedule; earned value; cost and schedule performance; productivity; quantity adjusted budgets; budget and schedule baselines; control account baselines; cost control versus financial control; analysis, trending, and forecasting; cost and schedule performance curves; index and other tracking; elements of complete cost; and case studies in cost engineering.

EM 01541: Engineering Law And Ethics 3 s.h.
This course introduces students to law and ethics as it applies to engineering and engineering management. Topics covered in the area of law include the following: legal responsibilities of owners, designers, and contractors: risk management via insurance, surety bonds, and contracts; legal implications of the common activities of design professionals; liens; expert testimony; and patent law. Topics covered in the area of ethics include the following: ethical codes of professionals; derivation of ethical structures; and the role of the engineer in assuring public safety, health, and welfare. Case studies dealing with law and ethics are included.

EM 01542: Facilities Management 3 s.h.
Prerequisite: Enrollment in Master of Engineering Management Program or Master of Science in Engineering Management Program
The topics covered in this course include the general characteristics and types of facilities: management functions within a facility and their differences compared with general management; inventory, procurement, operations, and real estate management; maintenance management and planning, preventive and schedule maintenance, and contract management; energy management and energy devices, electricity, lighting, water, heating, HVAC, and efficient and intelligent buildings; safety and environmental management, OSHA, RCRA, air quality, clean air act, and other EPA requirements; emission control and fleet management; and transport equipment, elevators, escalators, moving walkways, and device operation and maintenance. In this course, all aspects of managerial and planning concepts are covered, as well as maintenance and engineering knowhow that are relevant to and needed for the study of facilites managment.

EM 01543: Systems for Engineering Management 3 s.h.
Prerequisite: Enrollment in Master of Engineering Management Program or Master of Science in Engineering Management Program
This course teaches engineering management students the art of systems engineering. Engineering management students will learn systems engineering processes and skills to integrate user needs, manage requirements, conduct technological evaluation, and build elaborate system architectures. Engineering management students will also learn to assess risk and establish financial and schedule constraints. The course devotes particular attention to knowledge, skills, mindset, and leadership qulaities needed for an engineering manager to operate effectively in the area of systems engineering.

ENGR 01469: Introduction to Connected Vehicle Technology 3 s.h.
Connected Vehicle Technology (CVT) has potential to transform the existing surface transportation system into next generation sustainable transportation system by improving safety, operational efficiency, and reducing environmental impacts. The success of connected mobility relies on efficient integration of traffic flow principles, advanced sensors, computing tools & electronics, communications technologies, and management strategies. However, the transportation professionals will be required to master complexity of connected mobility systems and its components to evaluate, operate, and maintain future surface transportation systems. This course will introduce characteristics of the future mobility systems and overview of planning, designing, deploying and operating of future connected mobility systems. The course is designed for students that are familiar with intelligent transportation system.

ENGR 01569: Connected Vehicle Technology 3 s.h.
This course will introduce characteristics of the future mobility systems and overview of planning, designing, deploying and operating of future connected mobility systems. The advanced multidisciplinary topics include wireless communication technologies, transportation data analytics and traffic simulation. Students will utilize advanced tools to plan and design connected vehicle technology applications. The course is designed for students that are familiar with intelligent transportation system.

ENGR 01580: Advanced Viscoelasticity 3 s.h.
This course covers the fundamentals of linear and non-linear viscoelastic behavior of materials: constitutive modeling, experimental development of material properties, and solution of classic problems. Non-linear viscoelasticity and the effect of temperature on non-linear viscoelastic properties are presented. Standard experimental methods to characterize determine viscoelastic properties are discussed. Classic solutions, and the use of time-temperature superposition of solutions, are presented. In addition, the doctoral students will conduct testing and analysis of viscoelastic material to validate existing viscoelastic models. This course might not be offered annually.

STEM 01540: STEM: Automative & Robotics for Middle School Teachers 1.5 s.h.
Prerequisites: completed Bachelor's degree in any of the sciences, math, elementary education, secondary education or engineering. Currently teaching high school level science/ math /technology (or hired to teach in the fall term) in a school using the PL TW curriculum.
This course uses solid modeling to introduce students to the design process. Utilizing this design approach, students understand how solid modeling has influenced their lives. Students also learn sketching techniques, and use descriptive geometry as a component of design, measurement, and computer modeling. Using design briefs or abstracts, students create models and documentation to solve problems. This course is a credit-bearing companion to the Project Lead the Way (PL TW) non-credit training in Design and Modeling for teachers. Teachers interested in enrolling in this class must be currently enrolled in the PLTW course. Faculty Workload Hours: TBD This course will be taught by adjuncts selected from a pool of Project Lead the Way master teachers at the mutual agreement of Rowan and PL TW at a rate established nationally by PLTW and its University Affiliates Info for Registrar only. Faculty Load Hours does not appear in the catalogue)

STEM 01541: STEM: Design & Solid Modeling Middle School 1.5 s.h.
Prerequisites: completed Bachelor's degree in any of the sciences, math, elementary education, secondary education or engineering. Currently teaching high school level science/ math /technology (or hired to teach in the fall term) in a school using the PL TW curriculum.
This course uses solid modeling to introduce students to the design process. Utilizing this design approach, students understand how solid modeling has influenced their lives. Students also learn sketching techniques, and use descriptive geometry as a component of design, measurement, and computer modeling. Using design briefs or abstracts, students create models and documentation to solve problems. This course is a credit-bearing companion to the Project Lead the Way (PL

TW) non-credit training in Design and Modeling for teachers. Teachers interested in enrolling in this class must be currently enrolled in the PLTW course. Faculty Workload Hours: TBD This course will be taught by adjuncts selected from a pool of Project Lead the Way master teachers at the mutual agreement of Rowan and PL TW at a rate established nationally by PLTW and its University Affiliates Info for Registrar only.

STEM 01550: STEM: Engineering Designs & Solid Modeling 3 s.h.
Prerequisites: completed Bachelor's degree in any of the sciences, math, elementary education, secondary education or engineering. Currently teaching high school level science/ math /technology (or hired to teach in the fall term) in a school using the PL TW curriculum.
This course introduces content that high school teachers would find appropriate for 9th or 10 th grade students who are interested in design and engineering. The major focus of the course is to expose students to design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. The course of study includes: Design Process; Modeling; Sketching; Measurement; Statistics; Applied Geometry; Presentation Design and Delivery; Engineering Drawing Standards; CAD Solid Modeling; and Reverse Engineering. This course is a credit-bearing companion to the Project Lead the Way (PLTW) non-credit training called Introduction to Engineering Design for teachers. Teachers interested in enrolling in this class must be currently enrolled in the PL TW course.

STEM 01551: Principles of Engineering for High School Teachers 3 s.h.
Prerequisites: completed Bachelor's degree in any of the sciences, math, elementary education, secondary education or engineering. Currently teaching high school level science/ math /technology (or hired to teach in the fall term) in a school using the PL TW curriculum.
This course is a credit-bearing companion to the Project Lead the Way (PLTW) non-credit training called Principles of Engineering. Teachers interested in enrolling in this class must be currently enrolled in the PL TW course. Faculty Workload Hours: TBD This course will be taught by adjuncts selected from a pool of Project Lead the Way master teachers at the mutual agreement of Rowan and PL TW at a rate established nationally by PL TW and its University Affiliates.

STEM 01552: STEM: Digital Electronics for High School Teachers 3 s.h.
Prerequisites: completed Bachelor's degree in any of the sciences, math, elementary education, secondary education or engineering. Currently teaching high school level science/ math /technology (or hired to teach in the fall term) in a school using the PL TW curriculum.
Digital Electronics for High School Teachers is the study of electronic circuits that are used to process and control digital signals. The major focus of this course is to expose students to the process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design and build digital electronic circuits. This course introduces educators to content that is appropriate for 1Oth or 11th grade students interested in electronics. This course assumes no previous electronics knowledge however proficiency in college preparatory math is needed. This course is a credit-bearing companion to the Project Lead the Way (PLTW) non-credit training in Digital Electronics for teachers. Teachers interested in enrolling in this class must be currently enrolled in the PLTW course.

STEM 01553: STEM: Civil Engineering and Architecture for High School Teachers 3 s.h.
Prerequisites: completed Bachelor's degree in any of the sciences, math, elementary education, secondary education or engineering. Currently teaching high school level science/ math /technology (or hired to teach in the fall term) in a school using the PL TW curriculum.
Currently teaching high school level science/ math /technology (or hired to teach in the fall term) in a school using the PL TW curriculum. The major focus of this course is a long term project that involves the development of a local property site. As students learn about various aspects of civil engineering and architecture, they apply what they learn to the design and development of this property. The course of study includes the roles of civil engineers and architects, project planning, site planning, building design, and project documentation and presentation. This course is a credit-bearing companion to the Project Lead the Way (PLTW) non-credit training in Civil Engineering and Architecture for teachers. Teachers interested in enrolling in this class must be currently enrolled in the PL TW course.

CEE 08563: Advanced Pavement Analysis And Evaluation 3 s.h.
The fundamental theme of the course is the engineering study of pavement response. The topics covered include non-linear behavior of pavement materials and interaction between tires and pavements. Modeling and analysis of pavement behavior will also be taught, with content varying based upon instructor and student interests. The course includes field experiments and computer applications.

CMS 04210: Mass Media And Their Influences 3 s.h.
Prerequisites: ENGL 05105 or COMP 01112 or ENGR 01201 or permission of instructor
This course studies the impact on our daily lives of television, radio, films, magazines and newspapers. Students examine how the media influence politics, purchases, and entertainment, and how the media affect the culture in shaping beliefs and attitudes. It discusses how each of the media operates and what each accomplishes. This course examines the gap between real life and "mediated" reality.

CMS 04215: Fiction To Film 3 s.h.
Prerequisite: 30 credits required
This course provides comparative study of film and literature. Students learn the critical vocabulary of literature and film and enhance their understanding of both art forms. The course covers American and foreign works.

CMS 04225: Semantics 3 s.h.
Prerequisites: 30 credits required
This course makes students aware of the relationship between language and human behavior and of the use and abuse of verbal and non-verbal language. It emphasizes meaning, the classification and abstraction processes and the application of semantic principles to the language of literature, politics, advertising and prejudice.

CMS 04250: Communication Theory 3 s.h.
Prerequisites: COMP 01112 or ENGR 01201 or permission of instructor
This sophomore-level course acquaints students with current theories as they apply to a variety of communication environments. Drawing upon a wealth of timely research, students study theories relating to interpersonal, small group, organizational, public and mass communication. The course presents theories through readings as well as extensive class discussion.

CMS 04290: Rhetorical Theory 3 s.h.
Prerequisites: COMP 01112 or ENGR 01201
Rhetorical Theory introduces students to the concept of rhetoric and how it has been theorized from antiquity to the present. The course provides students with a systematic history of rhetorical theory and spotlights significant theorists such as Plato, Aristotle, Cicero, Blair and Burke. Students will explore how both ancient and contemporary theories of rhetoric apply to contemporary society.

CMS 04315: Participatory Media 3 s.h.
Prerequisites: COMP 01112
This course examines the social, economic and political implications of the use of participatory media, which enable audience participation in the production of mediated messages. Students taking this course will study network theory, the historical roots of the participatory culture, collective action and social networking, convergence, and the changing modes of media production. Students will also study legal and social justice issues related to these evolving trends in media use.

CMS 04325: Linguistics 3 s.h.
Students study the nature of human language by examining four major components: phonology, semantics, syntax, and morphology. Linguistics principally emphasizes linguistic universals, characteristics which all human languages share. Students discuss dialect formation, first-language acquisition in children, and animal communication systems. Students also compare modern linguistic theories.

CMS 04575: Advanced Special Topics In Communication Studies 3 s.h.
Advanced Special Topics in Communication Studies allows students the opportunity to study a specific area of the field of communication studies with great depth. Course topics change as new trends develop and as student interest necessitates scheduling. Topics are selected on the basis of timeliness and the availability of expert staff. General topics are announced as the course is scheduled. Permission of instructor is required for undergraduate enrollment so that adequate preparation for course topic can be ascertained. This course is not offered annually.

CS 01102: Introduction To Programming 3 s.h.
This course acquaints students with the logical structure of a computer, the algorithmic formulation of problems, and a modern high-level programming language. Extensive programming experience is included in the course. Proficiency equivalent to Basic Algebra II (MATH01.195) is expected for this course.

CS 01104: Introduction To Scientific Programming 3 s.h.
This course emphasizes algorithmic solutions of problems. The syntax of the programming language is also studied, as well as the writing of structured code. Proficiency equivalent to Basic Algebra II.

CS 01501: Essentials of Computer Science 3 s.h.
Prerequisite(s): None
In this course the students will be exposed to a broad-scope review of essential topics in the area of computer science. The students learn main principles of programming and software development, key data structures and algorithms and will be exposed to selected topics in such areas of computer science as theory of computation, formal methods, artificial intelligence, databases and data management, computer architecture, operating systems, data communications, and others.

CS 01541: Bioinformatics - Advanced Computational Aspects 3 s.h.
Prerequisite(s): graduate student status
This course introduces the advanced student to the computer hardware, software, algorithms and statistical packages that are used in computational aspects of bioinformatics. Hardware topics include multiprocessor clusters, high performance computing, and parallelism. Software topics include message passing and shared memory styles of parallel/concurrent programming languages, databases, avalilable software packages, and visualization techniques for large data sets. Algorithms and statistical packages include those for the studey of molecular biology, evolution, structural biology, and biological networks. Students will design and carry out an independent research project using and developing appropriate bioinformatics algorithms, software and/or hardware. Undergraduate preparation in Calculus, Statistics (preferably Biostatistics), and Introduction to Computer Programming is strongly suggested.

CS 04103: Computer Science And Programming 4 s.h.
This course emphasizes programming methodology, algorithms and simple data structures. A programming language rich enough to allow easy implementation of data structures is studied. Prior programming experience in any programming language is expected for this course.

CS 04113: Introduction To Object Oriented Programming 4 s.h.
Prerequisites: MATH 01122 or MATH 01123 or MATH 01130
This course introduces the fundamental concepts of programming from an object-oriented perspective. Topics are drawn from classes and objects, abstraction, encapsulation, data types, calling methods and passing parameters decisions, loops, arrays and collections, documentation, testing and debugging, exceptions, design issues, inheritance and polymorphic variables and methods. The course emphasizes modern software engineering and design. Proficiency equivalent to Basic Algebra (MATH 01.195) expected for the course.

CS 04114: Object Oriented Programming And Data Abstraction 4 s.h.
Prerequisites: CS 04113 or (CS 04103 and CS 04112)
Objects and data abstraction continues from Introduction to Object-Oriented Programming to the methodology of programming from an object-oriented perspective. Through the study of object design, this course also introduces the basics of human-computer interfaces, graphics, with an emphasis on software engineering. A second operating system/programming platform is introduced.

CS 04222: Data Structures And Algorithms 4 s.h.
Prerequisite(s): CS 04.114 (C- or better) and MATH 03.160 or MATH 03.150
This course features programs of realistic complexity. The programs utilize data structures (string, lists, graphs, stacks, trees) and algorithms (searching, sorting, etc.) for manipulating these data structures. The course emphasizes interactive design and includes the use of microcomputer systems and direct access data files.

CS 04225: Principles of Data Structures 3 s.h.
Prerequisites: (CS 04103) or (CS 04113).
The course features programs of realistic complexity. The programs utilize data structures (strings, lists, graphs, stacks) and algorithms (searching, sorting, etc.) for manipulating these data structures. The course emphasizes interactive design and includes the use of microcomputer systems and direct access data files.

CS 04315: Programming Languages 3 s.h.
Prerequisites: (CS 04222 or CS 04225) and (CS 06205 or/and CS 06.205)
A study of the fundamental principles underlying the design of programming languages. Students will study two or more languages from contrasting programming paradigms such as Functional, Object-Oriented, Logical, or Concurrent.

CS 04390: Operating Systems 3 s.h.
Prerequisites: CS 04222 and CS 06205
The course concentrates on the design and functions of the operating systems of multi-user computers. Its topics include time sharing methods of memory allocation and protection, files, CPU scheduling, input-output management, interrupt handling, deadlocking and recovery and design principles. The course discusses one or more operating systems for small computers, such as UNIX.

CS 04400: Computer Science - Senior Project 3 s.h.
Prerequisites: CS 04315 and CS 07340
This is an advanced programming course in which students work on large-scale individual or team programming projects and make a formal presentation on their work. The course discusses program development, methodologies and strategies.

CS 04505: ADVANCED WEB PROGRAMMING 3 s.h.
Prerequisites: CS 04530 or CS 04430
This course teaches students to create and modify sophisticated data-driven web pages using client-server architecture. Topics covered include non-text information such as video, images, sound, custom web applications, asynchronous communication, accessibility, searching, security, and web server configuration.

CS 04530: Advanced Database Systems: Theory And Programming 3 s.h.
This course focuses on the design of DBMS and their use to create databases. The course covers both the theoretical concepts and the implementation aspects of database systems with a special emphasis on relational database systems, SQL, programming (in a modern programming language such as C++ or Java) using a real database Application Programming Interface (such as JDBC or ODBC).

CS 04548: Programming Languages: Theory, Implementation And Application 3 s.h.
An intermediate course intended to acquaint the student with the major categories of programming languages and to familiarize the student with one or two languages in each category. The student will complete programming projects in the languages studied. In addition, the student will learn formal mechanisms for specifying the syntax and semantics of languages and techniques for implementing data and control structures.

CS 04560: DESGN/IMPLEMENT OPER SYSTEMS 3 s.h.
Design choices and implementation (algorithms and data structures) of the capabilities of a modern operating system, including processes, concurrency, multithreading, synchronization, multiprocessors, CPU scheduling, interrupt handling, deadlocks, memory management, secondary storage management, file systems, I/O, protection and security. Issues include simplicity, efficiency, abstraction, microkernel, monolithic, client-server, mechanism vs. policy, caching.

CS 04563: Concurrent Programming - Theory and Practice 3 s.h.
Prerequisites: Graduate Standing or Permission of theInstructor.
This course covers the fundamental concepts of concurrent programming: processes, threads, context switching, atomic instructions/actions, shared data, race conditions, critical sections, mutual exclusion, synchronization, locks, barriers, semaphores, monitors, and rendezvous. Hardware platforms are discussed: shared-memory multiprocessors, multiple CPUs, multiple GPUs. Multithreaded programming languages are described.

CS 04564: Compiler Design Theory 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or BS/MS program
This course centers on the design and use of compilers, the sophisticated computer programs whose function is to translate high-level code to machine language. The following topics are covered: Compiler models, finite state machines, the lexical box, context free grammars, translation grammars, pushdown machines, the syntax box, and the code generator.

CS 04565: System Programming 3 s.h.
This course covers the internal structures and algorithms of the system kernel of a modern operating system as well as the system call interface to the kernel. Students will gain hands-on experience in system level programming in a modern operating system environment. The emphasis will be on interprocess communications and concurrency. The concept of distributed and client/server computing will also be introduced.

CS 04570: Advanced Object Oriented Design 3 s.h.
This course will introduce important concepts such as inheritance and polymorphism, which are crucial tools needed for crafting object-oriented solutions to real-world problems. Design patterns that commonly occur in design situations will be covered. A formal notation for describing and evaluating object-oriented designs such as the Unified Modeling Language (UML) will be taught. Students will apply the concepts to design and implement object oriented solutions to one or more reasonably sized real-world problems.

CS 04571: Advanced Topics in Mobile Programming 3 s.h.
Prerequisite(s): CS 04422 and CS 04471
Students will explore advanced topics in mobile application development. This course explores mobile application genres and the various development tools, languages and enviornments which are used to create them. The subject starts by requiring students to investigate the mobile application landscape and study some general purpose software development issues and techniques. It then requires each students to choose on of three implementation platforms: iOS (for Apple iPhone), .NET (for Windows Phone 7) or Java (for Android) and to study application development for that platform, implementing a modest application as a core requirement of their study. The subject concludes by looking, in theory, at the different deployment and distribution mechamisms used by mobile application vendors.

CS 06205: Computer Organization 3 s.h.
Prerequisite(s): Minimum Requirement C- for each of the following: (CS 04113 or CS 04103) and (MATH 03160 or MATH 03150) and Sophmore Standing
This course provides an introduction to computer organization. Students are exposed to the register level architecture of a modern computer and its assembly language. The topics include machine level data representation, von Neumann architecture and instruction execution cycle, memory hierarchy, I/O and interrupts, instruction sets and types, addressing modes, instruction formats and translation.

CS 06310: Principles Of Digital Computers 3 s.h.
Corequisites: CS 06311 Prerequisites: CS 06205
This course provides an introduction to the fundamentals of computer hardware systems. The topics include digital logic, combinational circuits, sequential circuits, memory system structure, bus and interconnection structure, computer arithmetic and the ALU unit, I/O system structure, hardwired control unit, microprogrammed control unit, and alternative computer architectures. This course is not open to students who have taken CS06.370 Digital Design and Lab.

CS 06311: Digital Computer Laboratory 1 s.h.
Corequisites: CS 06310 Prerequisites: CS 06205
This lab course provides the student with hands-on experience in the design and implementation of digital components. State-of-the-art systems are used to design, test, and implement digital circuits: Combinational circuits, sequential circuits, registers, counters, datapath, arithmetic/logic units, control units, and CPU design. This course is taken concurrently with Principles of Digital Computers.

CS 06505: Wireless Networks And Systems 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or BS/MS program
This course prepares students to understand wireless networks and systems, and the underlying communications technologies that make them possible. The course covers descriptive material on wireless communications technologies, and important deployed and proposed networks and systems. Wireless system performance and Quality of Service capabilities are addressed. Students will prepare and deliver technical presentations on state-of-the-art topics in wireless networks and systems.

CS 06510: Computer Networks 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or BS/MS program
Students in this course study how computer networks work and why they have been designed as we know them. The course covers descriptive material on network architectures and protocols, as well as network performance evaluation and protocol implementation. The course topics include important examples of local, metropolitan and wide area networks; telephone, cellular and wireless networks; the Internet; network security; and design tradeoffs in network systems and their implementations.

CS 06512: Network Security 3 s.h.
This is a graduate level course that covers the fundamentals of network security and cryptology. The course will cover such topics as cryptographic systems necessary for security, public key infrastructure, principles of data integrity, authentication, and key management, Internet architecture and TCP/IP protocol suite, application layer security, secure sockets layer and transport layer security protocols, IPSec and distributed denial of service attacks. Students will prepare and deliver technical presentations on state-of-the-art research topics in network security.

CS 06515: Embedded Systems Programming 3 s.h.
Embedded software is used in almost every electronic device. This course deals with software issues that arise in embedded systems programming. Important concepts covered in this course will include device programming interfaces, device drivers, multi-tasking with real-time constraints, task synchronization, device testing and debugging, and embedded software development tools such as emulators and debuggers. These concepts will be applied to design and implement embedded software for one or more modest-sized embedded systems.

CS 06520: Topics In Computer Architecture 3 s.h.
Students in this course will study the various performance enhancement techniques and more advanced architectural features of modern computer systems. The topics include DMA, I/O processor, RAID, cache memory, virtual memory, pipelining, RISC, superscalar processors and various advanced parallel architectures such as array processors, vector processors, shared-memory multiprocessors, and message-passing multicomputers. Students will complete independent research projects that may include detailed examination of one or two contemporary computers.

CS 07210: Foundations Of Computer Science 3 s.h.
Prerequisite(s): C- or better in (MATH 03160 or MATH 03150) and on of the following: CS 01102, CS 04103, CS 01104 or CS 04113
This course provides an introduction to the theoretical foundations of computer science, including finite automata, context-free grammars, Turing machines, and formal logic.

CS 07321: Software Engineering I-Writing Intensive 3 s.h.
Prerequisites: (CS04.222 or CS 04.225) and (COMP 01.112 or ENGR 01.201) and (CMS 06.202 or ENGR 01.202)
An introduction to the discipline of Software Engineering. Students will explore the major phases of the Software Lifecycle, including analysis, specification, design, implementation, and testing. Techniques for creating documentation and using software development tools will be presented. Students will gain experience in these areas by working in teams to develop a software system. Proficiency in programming is expected of the students entering this course.

CS 07340: Design And Analysis Of Algorithms 3 s.h.
Prerequisites: CS 04222 and CS 07210
In this course, students will learn to design and analyze efficient algorithms for sorting, searching, graphs, sets, matrices, and other applications. Students will also learn to recognize and prove NP-Completeness.

CS 07422: Theory Of Computing 3 s.h.
Prerequisites: CS 04222 and MATH 01131 and CS 07210
This is an advanced course in the theoretical foundations of computer science, building on the introduction provided in the Foundations of Computer Science course. It studies models of computers, such as finite automata and Turing machines, formal languages, and computability, as well as the fundamentals of complexity theory and NP-completeness.

CS 07522: Advanced Theory Of Computing 3 s.h.
This course builds on the introduction to the theory of computing provided in the course Foundations of Computer Science. It discusses finite automata, formal languages, Turing Machines, and computability theory at an advanced level.

CS 07523: ADV SOFTWARE ENGINEERING 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or BS/MS program
Students will apply their knowledge from Software Engineering to develop an advanced software system, working in teams. The project will be taken through each of the major software development phases, and student teams will create appropriate deliverables for each phase. Advanced modern software engineering topics such as critical systems, real-time systems, formal specification and validation, and project management will be covered. Students will be required to complete in-depth assignments involving conference or journal papers from the software engineering literature.

CS 07524: Agiles Software Engineering 3 s.h.
Prerequisites: Computer Science graduate standing.
In this, course students apply in-depth techniques and experience various roles incorporated into the agile software engineering methodology. Ann overview of each of the major software engineering phases is provided and then applied towards the development of faster and more adaptable software. Proficiency in programming is expected of the students entering this course. Students are required to complete in-depth assignments, read, summarize, and present recent journal papers from the agile software engineering literature, and prepare term papers with regard to an agile software engineering research topic.

CS 07530: Computer Science Thesis I 3 s.h.
In consultation with the instructor, students will identify and research a specific area of computer science or computer science education. Students will define a thesis project and develop a formal specification of their intended project for completion in Computer Science Thesis II.

CS 07531: Computer Science Thesis II 3 s.h.
Students will follow their formal project specification developed in Computer Science Thesis I to research a specific area of computer science or computer science education and produce a written thesis.

CS 07532: Computer Science Thesis III 3 s.h.
Prerequisite: CS 07530 AND CS 07531
Students will continue scholarly research that was being done in Computer Science Thesis II and produce a written thesis.

CS 07540: Advanced Design And Analysis Of Algorithms 3 s.h.
Students in this course will study efficient algorithms for sorting, searching, graphs, sets, matrices, and other applications, and will learn to design and analyze new algorithms. Students will also learn to recognize and prove NP-Completeness.

CS 07545: Advanced Robotics 3 s.h.
This course provides an introduction to the fundamentals of robotics. Students study robot manipulators and mobile robots, robot sensors and robot cognition. Students will also gain experience programming in small groups, and programming in a domain where noisy and imprecise data is commonplace. Familiarity with matrix multiplication and inversion is expected for this course.

CS 07550: Concepts In Artificial Intelligence 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or MS/MS program
This course surveys methods for programming computers to behave intelligently. Topics include knowledge representation methods, heuristic search, theorem-proving, puzzle-solving, game-playing, natural language processing, and expert systems.

CS 07551: Advanced Cyber Security: Principles and Applications 3 s.h.
Prerequisite(s): None
This graduate course examines the principles of cyber security and will introduce students to a wide range of security activities, methodologies, and procedures. The topics covered in the course include fundemental concepts of computer security: threats, attacks, and assets; principles of cryptography: encryption, decryption, authentication, and non-repudiation; software security and trusted systems: developing secure software, buffer overflow attacks, operating security issues, trusted systems; network security: intrusion detection, firewalls and intrusion prevention systems, distributed denial-of-service attacks, malicious software, protocols for network security; as well as other topics.

CS 07552: Cryptographic Algorithms 3 s.h.
Prerequisite(s): None
This graduate course examines the advanced topics in the field of cryptography. The course will introduce students to a wide range of topics ranging from mathematical foundations to designing crytographic algorithms. The topics covered in the course will include the Data Encryption Standard (DES), Advanced Encryption Standard (AES), RSA cryptosystem, ElGamal cryptosystem, elliptic curve cryptosystem, integrity, authentication, and ke management, cryptographic has functions, digital signatures, entity authentication, key management, Kerberos, and others.

CS 07555: Natural Language Processing 3 s.h.
This course presents methods for allowing computers to understand and generate sentences in human languages (such as English) and prepares the student to do research in natural language processing. Topics include syntax, semantics, pragmatics, and knowledge representation.

CS 07556: Machine Learning 3 s.h.
This course presents problems and solution methods for machine learning in a variety of contexts, such as inductive inference, statistical learning, explanation-based learning, genetic algorithms, and neural networks, and prepares the student to do research in this field.

CS 07560: Computer Graphics 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or BS/MS program
This is a graduate level course in Computer Graphics. Students will study the use and implementation of graphics packages. Techniques and algorithms for implementing graphics systems will be covered. They include drawing of 2-D primitives; 2- and 3-D transformation and viewing; representing curves and surfaces; hidden line and surface removal; illumination and shading. Substantial programming projects on writing graphics applications and implementing graphics algorithms will be assigned. Students are encouraged to devise new techniques, implement them, and determine their effectiveness. Students will be required to complete in-depth assignments involving conference or journal papers from the computer graphics literature.

CS 07565: Computer Vision 3 s.h.
This course examines the fundamental issues in computer vision and major approaches that address them. The topics include image formation, image filtering and transforms, image features, mathematical morphology, segmentation, and object recognition. More advanced topics such as camera calibration, stereopsis, dynamic vision, and computer architectures for vision will also be covered. Independent projects on these advanced topics will be required.

CS 07570: INFORMATION VISUALIZATION 3 s.h.
This is a graduate level course in Information Visualization. Topics covered include graphics programming, information visualization general principles, visualization techniques for 1-dimensional, 2-dimensional, and N-dimensional information, graph visualization, visualization techniques for image and digital libraries, as well as for the World Wide Web, interactivity, theories behind information visualization, and focus+context techniques. This course also includes the implementation of techniques presented in lecture. Students are encouraged to devise new techniques, implement them, and determine their effectiveness. Students will be required to complete in-depth assignments, read, summarize, and present recent journal papers from the information visualization literature, and prepare term papers with regard to an information visualization research topic. Students will also be required to specify, design, implement, and document a semester-long software project

related to information visualization.

CS 07575: Advanced Tcp/Ip And Internet Protocols And Technologies 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or BS/MS program
This is an advanced computer networking course that will expand students knowledge received in the Data Communications and Networking course. This course will examine operation of the TCP/IP protocol as well as design and architecture of the Internet. This course will cover such topics as: medium access protocols, address resolution protocols, Internet routing, Internet Protocol (IP), Quality of Service, Transport Protocol, and congestion control mechanisms. This course will also include selected topics on network security and network management. Students will prepare and deliver technical presentations on state-of-the-art research topics in the Internet.

CS 07580: COMPUTER ANIMATION 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or BS/MS program
This is a graduate level course in Computer Animation that takes a look at Computer Animation from a programmer's perspective. It will investigate the theory, algorithms, and techniques for describing and programming motion for virtual 3D worlds. Approaches that will be explored include keyframing systems, kinematics, motion of articulated figures, and procedural and behavioral systems. Students will be required to complete in-depth assignments, read, summarize, and present recent journal papers from the computer animation literature, and prepare term papers with regard to a computer animation research topic. Students will also be required to specify, design, implement, and document a semester-long software project related to computer animation.

CS 07590: Computer Game Design And Development 3 s.h.
Prerequisites: Acceptance into the Computer ScienceMS or BS/MS program
This is a graduate level course that investigates advances in technology, science, art, and culture involved in the creation of computer games. Games wil be examined in a systems context to understand gaming and game design fundamentals. Students will be required to complete in-depth assignments and present recent conference or journal papers from the computer gaming and game design fundamentals. Students will be required to complete in-depth assignments and present recent conference or journal papers from the computer gaming literature. Extensive study of past and current games will be used to illustrate course concepts. Students will also be required to specify, design, implement, and document a semester-long software project related to computer animation.

CS 07595: Advanced Topics In Computer Science 1 to 4 s.h.
This course enables the faculty to offer courses in advanced topics which are not offered on a regular basis. Prerequisites will vary according to the specific topic being studied.

INTR 01265: Computers and Society 3 s.h.
Prerequisite(s): COMP 01112 or HONR 01112 or ENGR 01201

CASE 90800: Current Issues & Research in Access, Success, & Equity in Education 3 s.h.
The purpose of this course is to provide students with an in-depth exploration of the current issues and research surrounding access, success, and equity in P-20 contexts. Students will gain a broad understanding of issues related to the current context of schools through an equity lens, understanding and operationalizing access, success, and equity; understanding diverse populations, systemic inequities, reform efforts, and theoretical frameworks appropriate for studying educational disparities. This course will provide students with relevant skills and understanding of current research, models, and considerations for working with issues of access, success, and equity. The readings, discussions, and assignments are intended to provide information for students aspiring to academic positions.

CASE 90801: Research Seminar in Access, Success, & Equity 3 s.h.
Prerequisites: CASE 90800
The purpose of this class is for students to develop as educational researchers. This course will facilitate the development of doctoral students' research ideas and build community among students and faculty. Under supervision, students will engage in various stages of research activities and will learn how to effectively design, conduct, and disseminate results.

CASE 90802: Internship in the Academic Profession and Professoriate for Promoting Student Success 3 s.h.
Prerequisites: CASE 90800
The purpose of this course is for students to develop as reflective and effective post-secondary educators. Under supervision, students will teach discipline specific courses while simultaneously reflecting on their experiences of teaching adult students for equitable outcomes. Students will learn how to effectively design and implement curricula, use effective instructional and technological strategies, use assessment to improve teaching, and formulate their own personal philosophy of teaching.

CASE 90803: Equity, Success, and Access Educational Research 3 s.h.
Prerequisite: CASE 90801, CASE 90802.
This seminar is designed to support students approaching their third year in the preparation of dissertation proposal and to facilitate the transition from coursework to dissertation. Students will learn about the dissertation process and develop a plan for completing their dissertation. Each student will prepare a concept paper that frames their dissertation ideas, with emphasis placed on the logical relations between elements. Course must be repeated.

CASE 90810: Quantitative Research Methods in Education 3 s.h.
Prerequisites: CASE 90800
This course provides an introduction to the examination of appropriate quantitative methods in applied educational contexts. Students will learn data analysis strategies for education data with an emphasis on identification and interpretation of findings.

CASE 90811: Multivariate Research Methods in Education 3 s.h.
Prerequisite: CASE 90810
The purpose of this course is to advance students' statistical knowledge with multivariate statistical methods. The course will highlight the implementation and interpretation of these methods. An emphasis will be placed on using statistical methods that simultaneously analyze multiple measurements under investigation in an educational context.

CASE 90812: Qualitative Research Methods in Education 3 s.h.
Prerequisite: CASE 90800
This course introduces students to qualitative research as an approach to exploring and understanding problems of access, success, and equity. This course is required of all PhD students because it lays the foundation to rigorous qualitative empirical research. Beginning with questions of epistemology and an interrogation of competing paradigms, it supports the goals of the program, college, and university by requiring students examine their stance as they undertake research in key areas of access, success, and equity. At the completion of this course students will have fully conceptualized and carried out a qualitative study and written a research paper that can be submitted to a conference.

CASE 90813: Survey Methods in Education 3 s.h.
Prerequisite: CASE 90811
The purpose of this course is for students to examine the major elements involved in planning, conducting, and reporting survey research. An emphasis will be placed on the design, instrumentation, data analysis, and interpretation of survey research.

CASE 90814: Advanced Qualitative Research Methods in Education 3 s.h.
Prerequisite: CASE 90812
This course emphasizes a critical interpretivist approach to qualitative inquiry. It examines critical approaches to research by focusing on contemporary educational problems related to access, equity, and success. This course builds upon Qualitative Research 1 through the exploration of strategies of inquiry, using qualitative data analysis software, and presenting qualitative research.

CASE 90815: Single Subject Study Design in Education 3 s.h.
Prerequisite: CASE 90811
This course provides the students with a basic knowledge of the theoretical bases and methodological procedures of single subject experimental designs. In this course, content includes variety of single subject research designs, procedures in single subject research, and evaluation of single subject research findings applied in an educational context.

CASE 90816: Mixed Methods Research Methods in Education 3 s.h.
Prerequisites: CASE 90810, CASE 90812
This course is an advanced research seminar on approaches to integrating qualitative and quantitative approaches, methods, and data in a single study. The course covers the assumptions and "mental models" that inform both approaches, and the ways in which qualitative and quantitative goals, questions, methods, analysis strategies, and presentation styles can be productively integrated.

CASE 90817: Experimental Design Research Methods in Education 3 s.h.
Prerequisite: CASE 90811
This course provides the students with a basic knowledge of the theoretical bases and methodological procedures of experimental and quasi-experimental designs applied to educational problems involving access, equity, and success. Course content includes experiments and generalized causal inference, statistical conclusions, validity & internal validity, introduction to statistical power/design sensitivity, construct validity, and external validity, quasi-experimental designs, interrupted time series designs, regression discontinuity designs, randomized experiments, and generalized causal inference from single and multiple studies.

CASE 90820: Advocacy, Leadership, and Professional Issues in Counselor Education 3 s.h.
The purpose of this course is to provide advanced graduate student an orientation to counselor education with an understanding of a variety of professional development issues (e.g., research, teaching, consultation, and service). Students will acquire an in-depth understanding of ethical standards of the counseling profession and it application to counselor practice and counselor education. Students will also acquire leadership theory, leadership practice, and advocacy knowledge and skills to help further students, clients, and the counseling profession.

CASE 90821: Advanced Practicum in Counseling for Equitable Career & College Readiness 3 s.h.
Prerequisites: CASE 90820
This course provided advanced graduate students an opportunity to advance to demonstrate and develop counseling skills specifically related to college and career readiness utilizing ethical and culturally relevant counseling practices.

CASE 90822: Advanced Theories of Indiv & Group Coun for Academic, Soc/Emot, & Career Development 3 s.h.
Prerequisite: CASE 90820
This course specifically provides students the opportunity to advance their individual and group counseling skills specifically in the areas of academic, social/emotional, and career development. Students will increase their knowledge based of theories, skills, evidence-based practices, and methods of evaluation counseling effectiveness in both individual and group counseling.

CASE 90823: Supervision in Counselor Education 3 s.h.
Prerequisite: CASE 90821
The purpose of this course is to familiarize students with conceptual, ethical, and methodological issues regarding the supervisory process in the counseling profession. Students will be able to develop and synthesize an ethical and culturally relevant personal approach of implementing counselor supervision that can be applied to a present and/or future setting.

CASE 90824: Adv Theories in Family & Systems Coun, Consul, & Comm Engagement for Ed Access 3 s.h.
This course specifically provides students the opportunity to advance their counseling knowledge, skills, and evidence-based practices specifically in the areas of family and systems counseling, consultation, and community engagement through the lens of educational access for all K-20 students.

CASE 90825: Practicum in Supervision for Counselor Education 3 s.h.
Prerequisite: CASE 90823
This course is intended to assist counselor education doctoral students to apply current supervision facts, concepts, and research in a counseling practicum setting. Furthermore, the course will provide opportunities for experiential learning and skill development in an applied supervisory setting and will enable students to synthesize a personal approach to counselor supervision. This approach will develop out of an integration of knowledge (based on theory) and experience, which can then be applied to a future work setting as a facilitating reflective practitioner.

CASE 90826: Advanced Assessment & Program Evaluation Procedures in Counseling for Access, Equity & Success 3 s.h.
This course extends students' knowledge of the theoretical basis for assessments and assessment techniques used in different counseling settings through a social justice lens. Students will also take an in-depth look at methods of evaluating counseling effectiveness, including the assessment methods used in course development and learn how to conduct program evaluations of counselor education programs.

CASE 90830: Introduction to Postsecondary Education 3 s.h.
The purpose of this course is to provide students with an introduction to the research, theoretical, and practical issues surrounding access to college and equity in postsecondary education institutions. Specifically, it aims to teach students to think critically about access and equity issues related to racial/ethnic minority groups and socioeconomic status. Major themes include: affirmative action, college choice, community colleges, financial aid.

CASE 90831: Organizational Analysis & Administration of Postsecondary Education 3 s.h.
Prerequisite: CASE 90830
This course introduces students to colleges and universities as large, complex organizational systems. Conceptual models for understanding their structures, contexts, and interactions with the broader environment are explored. Major themes include: organizational theory and analysis; the organizational and governance structures in postsecondary education; different models in postsecondary education including two-year and four-year college, public and private colleges, and new developments in the for-profit sector.

CASE 90832: International & Comparative Higher Education 3 s.h.
This course explores key constructs, theories, and issues in international higher education, using comparative techniques. Students will explore contemporary educational problems related to access, equity, and success. Students will also consider the complexities of globalization and international policy flows for the reform, practice, and organization of higher education.

CASE 90833: Public Policy & Analysis in Postsecondary Education 3 s.h.
Prerequisite: CASE 90830
This course introduces students to the policy process affecting American postsecondary education. This course will explore current policies that influence colleges and universities and their students. Specific policy topics including access, equity, finance, and accountability policies in the postsecondary context.

CASE 90834: Student Learning & Development: Impact of Postsecondary Education 3 s.h.
Prerequisite: CASE 90830
The purpose of this course is to provide students with an in-depth exploration of the current theory and conceptual frameworks utilized in research focused on students' learning and development while in college and the impact of college on learning and development. The course foci include: the methodology of studying college impact; conceptual models of student development and the impact of college; learning and cognitive development; moral development; and conducting research on educational attainment, career and economic benefits, and quality of post college life.

CASE 90836: Assessment & Evaluation in Postsecondary Education 3 s.h.
Prerequisite: CASE 90830
This course introduces students to the process of program development, change, improvement and evaluation for postsecondary education. It furthers' students' knowledge of the theoretical basis for assessment and evaluation. Students will learn how to cultivate a culture of inquiry that uses data as an opportunity for exploring equity in programs and broader organizational contexts and developing solutions to improve performance.

CASE 90840: Theoretical Perspectives in the Study of Literacy 3 s.h.
Prerequisites: Admittance to the PhD program (D800)
This course examines influential theories and research that address the broad and continually evolving knowledge-base in literacy. Candidates analyze foundational and cutting edge studies in the field of literacy and consider how leading and often competing reading theories developed over time as well as how seminal research studies were conducted and considered by scholars, practitioners and policy makers. The course emphasizes the ways in which a personal belief system impacts a theoretical orientation to practice and/or research. In addition, the course will focus on research propelling current conversations in the literacy field. Topics explore how the definitions, purposes and practices of literacy often depend on characteristics having to do with language, class, gender, print verses electronic text, and contextual considerations such as in-school verses out-of-school settings or local verses federal policy.

CASE 90841: Transliteracy and Translingualism 3 s.h.
Prerequisites: CASE 90840
This course focuses on transliterate and translingual theories, pedagogies, and policies in K-12 classrooms. Candidates will understand the history of literacy, and the inter-relationship of literacy, context, and culture. It explores how many languages and the power of multiple languages comes into use to communicate and to gain access in a more global world. The course also emphasizes research on current conversations in the field of printed literacy. Finally, students will be able to define what it means to be trans-literate in the 21st century.

CASE 90842: Multicultural & Multilingual Issues in Literacy Education 3 s.h.
Prerequisites: CASE 90840
This course explores multicultural and multilingual issues in local and global educational and societal contexts. Being more common than not, multilingualism exists across the globe in a variety of contexts; students will explore studies in both local and global instances that demonstrate how people negotiate their multilingualism to achieve access and success. Students will draw connections between local to global language issues, and how, at times, the issue is resolved in one context but not the other. Finally, the course focuses on what research in multilingualism means for schools, classrooms, teachers, and teacher educators.

CASE 90843: Literacy as Practice In & Outside of School 3 s.h.
Prerequisites: CASE 90840
This course investigates literacy practices that occur in a range of institutions and social spaces with an interest in expanding conceptions of what counts as literacy. This course introduces students to an array of theoretical frameworks within which contemporary scholars define, study, and explain literate actions as simultaneously individual and collective. These traditions include but are not limited to: critical literacy; socio-cultural theories; activity theory; ethnography of communication; technologically mediated literacies; narrative theories. Tensions between school curriculums and students' out-of-school literacy practices are discussed with emphasis on research as a means to transform school spaces, creating greater success and equity.

CASE 90844: First & Second Language Acquisition 3 s.h.
Prerequisite: CASE 90840
This course examines the theoretical bases and research perspectives on second language acquisition and linguistic diversity in the United States. This course will prepare doctoral students to be able to critically review theories and research on first and second language acquisition and linguistic diversity, select appropriate assessments when conducting research in the field, understand the unique features of second language acquisition that influence language and literacy development, and identify the social and cultural contexts that influence language and literacy development and the success and equity of school learning in general and how to account for this variance in research design.

CASE 90845: The Pedagogy of Literature for Children & Adolescents 3 s.h.
Prerequisite: CASE 90840
This course is an introduction that examines literature used in schools through literacy theories, children's literature, and empirical research that address current theoretical discussions. Candidates will be able to define what is children's literature. In addition, they will examine how literacy theory helps to understand children's literature. They will also look at empirical research on reader response and discover ways it informs pedagogy and creates greater equity in P-12 classrooms.

CASE 90846: Sociolinguistics & Discourse Analysis in Literacy Studies 3 s.h.
Prerequisite: CASE 90840
This is an in-depth study of language and literacy practices in its social context, especially educational contexts. The courses emphasize how language and literacy practices produce an inequitable world, but also how language and literacy can be used to change this inequity. The course will survey various research approaches in literacy studies, including linguistic ethnography and discourse analysis. We will consider the underlying theories guiding these approaches and apply these to data analysis in literacy contexts.

CASE 90850: Access, Success & Equity in Special Education 3 s.h.
This course focuses on historical and contemporary issues of access, success and equity in the field of special education. Students will examine evolving changes in perceptions toward and services for individuals with exceptional learning needs. In addition to investigating multiple contemporary issues in the field of special education, students will prepare an extensive analysis of one current issue affecting individuals with exceptional learning needs and articulate implications that support improved access, success and equity for all persons.

CASE 90851: Research to Practice in Special Education 3 s.h.
Prerequisite: CASE 90850
This course focuses on contemporary research methods and practices in special education. Students will examine how research can change practice and what is needed in order to implement research-based findings in education settings. Students will identify an area of research and prepare an extensive review of the literature thar illustrate the development of this research and its impact on special educational practices as well as the impact on access, success, and equality for all persons.

CASE 90852: Program Evaluation & Planning in Special Education 3 s.h.
Prerequisite: CASE 90850
This course will enable students to identify and develop effective models for evaluating the success of special education programs, including their success in meeting the goal of access, success, and equity for all individuals. Students will study evaluation approaches and formative and summative assessment models that contribute to program evaluation, with a focus on developing a management/decision-oriented evaluation plan. A field experience is a mandatory component of this course. The major course assignment will require students to develop an evaluation plan, complete the program evaluation in their field placement, and report evaluation findings to stakeholders. This course serves as a practicum for the conceptualization and development of a doctoral research study that employs a program evaluation model.

CASE 90853: Leadership, Policy, & Ethics in Special Education 3 s.h.
Prerequisite: CASE 90850
This course will focus on contemporary issues related to leadership, policy, and ethics in special education with a focus on access, success, and equity for students with exceptional learning needs. This course will enhance students' knowledge of the laws and policies that govern special education. In addition, students will study the role that leaders can play in implementing and supporting effective programs through collaboration and professional learning communities. Case studies will be used for students to analyze and evaluate the decisions of educational leaders in the context of ethical practice, the law, and the best practice literature on leadership and collaboration.

CASE 90854: Personnel Preparation & Effective Teaching in Special Education 3 s.h.
Prerequisite: CASE 90850
In this course, students will explore current issues and research in personnel preparation for special education, including issues of access, success, and equity, to prepare them to become educational researchers, competent in turning research into practice across a range of education settings. Effective school-based models and relevant theoretical perspective that support diverse learners will be addressed. As the major course assignment, candidates will develop and present a college-level course proposal on a relevant contemporary issue and evaluate/offer constructive feedback to others on the extent to which each course proposal supports instructional needs of students with exceptionalities.

CASE 90855: Evidence Based Practices in Special Education 3 s.h.
Prerequisite: CASE 90850
The use of evidence-based practices is at the core of successful practice in special education. In this course, students will examine the concept of evidence-based practice as it has evolved in fields such as medicine. They will also examine the challenge of developing and using evidence-based practices in special education. Emerging technology-based practices will be a focus of this course. Students will be challenged to apply their knowledge of cognitive and behavioral science, learning theory, and instructional technologies to improve programs, services, and supports to ensure access, success, and equity for all students.

CASE 90856: Current Issues in Special Education 3 s.h.
Prerequisite: CASE 90850
This course focuses on contemporary issues in the field of special education. Students will select one or two important topics to study through research review, and lead discussions of the study with peers. Students are required to develop a conference proposal and submit for a presentation. A grant application collaborating with the course instructor and other students is also required.

CASE 90890: Dissertation Research 3 s.h.
Prerequisite: CASE 90803
This course is designed for students in the PhD in Education program who are completed with coursework. Students who are working on the dissertation must enroll in this course. Students will take up to 21 credits total.

COUN 26501: Introduction To Counseling And Guidance 3 s.h.
This course provides a comprehensive, introductory overview of the profession of school counseling. It provides students with the philosophical and historical perspectives that serve as a foundation for the school counseling profession. The course also addresses current professional issues such as legislation, associations, certification, licensure, and accreditation. In addition, information will be provided as to the diversity of roles, job outlook, and specializations within the counseling field.

COUN 26509: Group Counseling In Educational Settings 3 s.h.
Emphasis is placed in the design, planning and facilitation of a group. The focus of the class is experiential whereby students learn group facilitation skills while being part of a group process. The course covers basic skills for group leaders, introducing, conducting and processing exercises, kinds of counseling and therapy groups, dealing with problem situations, and multicultural considerations.

COUN 26520: Design And Coordination of Developmental Counseling Programs 3 s.h.
This course provides a thorough exploration of developmental counseling programs to meet students' academic, social-emotional and career development needs. It also discusses how such programs are integral to school educational and preventive programs including collaboration and consultation skills and substance awareness programming.

COUN 26523: Counseling Interviewing Skills And Techniques 3 s.h.
The course explores the nature of counseling and its relationships to theoretical concepts. The course also teaches fundamental counseling skills such as relationship building, basic assessment, goal setting, selection of interventions, and evaluation of client outcomes.

COUN 26524: Assessment And Appraisal Procedures In Counseling In Educational Settings 3 s.h.
An overview of formal and informal assessment and appraisal methods for evaluating student trends in academic, behavioral, socio-emotional and career development and performance in educational settings (K-16). Topics include: psychometric statistics, factors related to the assessment and evaluation of individuals, groups and special populations, case conceptualization, assessment, and diagnosis. The processes of selection, administration, scoring, interpretation, and reporting information from appraisal techniques are examined in relation to practical, legal, and ethical considerations.

COUN 26525: Multicultural Counseling And Advocacy In Educational Settings 3 s.h.
This course provides a thorough explanation of multicultural school counseling. It presents relevant skills in counseling culturally diverse populations, as well as current theories and trends in multiculturalism as they relate to K-12 and post-secondary educational settings. The course addresses current professional issues such as promoting academic achievement and student retention among diverse student groups, working with culturally diverse families, and recognizing cultural influences on student behavior.

COUN 26526: Individual Counseling Procedures 3 s.h.
Coverage of all major counseling theories is provided with an emphasis on developing one's personal counseling philosophy and an integrative approach. Using assigned readings, discussion, and interactive counseling situations, students are provided with opportunities to refine their counseling skills; the "theory to practice" approach is utilized.

COUN 26527: Practicum In Counseling In Educational Settings 3 s.h.
Prerequisites: (COUN 26526 Individual Counseling Procedures and COUN 26529 Counseling Interviewing Skills and Tech and COUNT 26501 Introduction to Counseling and Guidance.
The purpose of this course is to help each student develop effective individual counseling skills which can be used in a multiplicity of settings. Students enrolled in this course will study and apply various contemporary theoretical approaches to counseling through role playing and video taping tecnhiques. A field-based experience of 100 clock hours is required.

COUN 26582: Career Counseling In Educational Settings 3 s.h.
This course seeks to develop a conceptual framework of the career development process throughout the life span as well as practical knowledge of the information system in counseling and career counseling procedures. The course covers the major theories of career development, the structure of the world of work, testing and assessment, computer assisted career guidance systems and systematic career development programming.

COUN 26597: Intervention and Referral Services/School Teams and Community Resources 3 s.h.
This course seeks to develop effective individual counseling skills which can be used in a multiplicity of settings such as school counseling, student assistance coordination, and higher education advisement. Students enrolled in this course will study and apply various contemporary theoretical approaches to counseling through direct supervision in educational and applied settings. A field experience of 100 clock hours is required under the supervision of an appropriately credentialed supervisor.

COUN 26601: Internship In Counseling In Educational Settings 3 s.h.
Prerequisites: COUN 26520 and COUN 26509and COUN 26526 and COUN 26501 andCOUN 26527 and COUN 26582
Internship I in Counseling/Student Personnel Services is one of the culminating field-based experiences for matriculated students taken during the final Fall semester of one's program. Students spend a minimum of 300 clock hours throughout each semester at their selected internship site for a maximum of 600 clock hours in one academic year. Emphasis is placed upon gaining direct experiences and actually participating in all phases of student services. Internship students work under the direction of an on-site mentor, and a college-faculty supervisor. Internship students attend topical seminars on campus.

COUN 26603: Research And Evaluation Procedures In Counseling In Educational Settings 3 s.h.
Prerequisites: COUN 26520 and COUN 26509 andCOUN 26526 and COUN 26501 and COUN 26527and COUN 26582
Research and Evaluation Procedures in Educational Settings will provide opportunities for students to conduct focused inquiry and to generate knowledge around those factors germane to the field of counseling. During this course, students will begin an action research thesis project focusing on school-counseling program reform, with emphasis on systems change processes, needs assessment, goal setting, and data gathering processes.

COUN 26605: Special Topics in Counseling in Educational Settings 1 to 3 s.h.
This course is a series of three 1 Semester Hour seminars designed to explore and discuss current issues in counseling. Selected topics include adventure learning, (ropes course), loss and bereavement, communicating for intimacy, and existential thought and spirituality.

CURR 29503: Teaching Adult Learners 3 s.h.
The general purpose of the course is to help participants become better instructors of adults. The course focuses on proven methods and techniques for teaching adults in a variety of settings. Special attention will be paid to the individualizing instruction process. Course participants will strengthen both theoretical and practical understandings of the adult learning process, study methods and techniques for teaching adults, and critically reflect on their own instructional efforts.

CURR 29504: Understanding Adult Learning And Development 3 s.h.
The general purpose of the course is to introduce participants to the processes of adult development and learning. The course examines the social, psychological, economic, and cultural dimensions of learning in adulthood as well as the application of theory and research findings to adult learning situations. Special attention will be paid to the concept of learning how to learn. Course participants will be invited to undergo a series of thinking style and learning style profile tests and then analyze the results in an effort to improve learning performance.

EDAM 27505: Selected Topics In Educational Leadership 1 to 6 s.h.
This course explores one or more topics of importance in the field of educational leadership. The focus will be different each time that the course is offered.

EDAM 27510: Change For School Improvement 3 s.h.
This advanced course in school leadership enables students to better understand the change process, further developing their analytic skills for improving the teaching and learning process. This course is offered annually and includes a field experience component.

EDAM 27521: Introduction To The Principalship 3 s.h.
The essence of school administration is the ability to supervise and manage the school organization, including its personnel, resources, and operations. In this course, students learn and demonstrate the supervisory and management skills necessary to use data-driven decision-making strategies to create an effective school culture and climate, supervise and manage school personnel and plant, supervise the application of instructional and informational technology, supervise scheduling and business procedures, and advocate for school resources among community and service agencies in ways that give priority to student learning, safety and security, and curriculum and instruction. Effective communications skills are emphasized.

EDAM 27525: INDEP STUDY-ED LEADERSHIP 1 to 6 s.h.

EDAM 27535: School Finance And Records 3 s.h.
Students learn and demonstrate the ability to develop budgets, apply principles of financial management, budget management. Students study how schools are supported financially. This course includes a field experience component.

EDAM 27536: Financial Accounting For School Systems 3 s.h.
This course will provide students with the knowledge and skills required to initiate and maintain a school district accounting program. The course will emphasize--but not be restricted to--the laws and procedures relative to New Jersey school accounting. This course includes a field experience component.

EDAM 27538: School Business Management 3 s.h.
This course is designed to provide graduate students with an introduction to the skills, concepts, and insights necessary for the school business administrators to manage, as members of the administrative team, increasingly complex schools to obtain the greatest educational return for each tax dollar expended. This course includes a field experience component.

EDAM 27559: Law And Ethics For School Leadership 3 s.h.
Students study and understand and demonstrate the ability to identify legal issues involved in personnel administration, school district government and operation, state aid, handicapped children and student rights. Includes a study of the legal structure of the New Jersey school system.

EDAM 27600: Practicum/Seminar In Administration/Supervision I 3 s.h.
An administrative internship to reinforce and practice administrative and supervisory competencies, in cooperation with a school district, is required. Students apply human relations skills, apply decision-making skills, articulate ethical beliefs and values and apply various leadership theories. Students also demonstrate group process abilities such as shared decision-making, group motivation, conflict resolution, and planning and conducting effective meetings. A project report is required integrating research findings with selected field projects. Written and oral communication and community relations skills are emphasized.

EDAM 27601: Practicum/Seminar In Administration/Supervision II 3 s.h.
An administrative internship to reinforce and practice administrative and supervisory competencies, in cooperation with a school district, is required. Students apply human relations skills, apply decision-making skills, articulate ethical beliefs and values and apply various leadership theories. Students also demonstrate group process abilities such as shared decision-making, group motivation, conflict resolution, and planning and conducting effective meetings. A project report is required integrating research findings with selected field projects. Written and oral communication and community relations skills are emphasized.

EDAM 27610: Human Resources For School Systems 3 s.h.
Analyzes the legal developments and trends in collective negotiations in the public sector. Topics to be developed are the process of effective negotiations, organization rivalries, grievance procedures, the impasse and the comprehensive agreement. This course may not be offered annually. It includes a field experience component.

EDAM 27620: Legal Issues In Higher Education 3 s.h.
This course examines the legal principles that guide the administration of higher education. Students will study current and emerging legal issues in higher education, focusing primarily on student rights, student life, and general administration legal concepts.

EDAM 27621: Student Services In Higher Education 3 s.h.
This course traces the historical development of student services and examines the philosophy and rationale for current student services. Reflecting upon the demographic trends affecting higher education, students consider the extent to which the nature, scope, and delivery of services should be changed to meet emerging needs.

EDAM 27622: Planning And Resource Allocation In Higher Education 3 s.h.
This course will teach students practical approaches to strategic and operational planning in higher education, as well as how to develop budgets that are driven by institutional mission and that support the institutional plan.

EDAM 27623: Diversity In Higher Education 3 s.h.
The purpose of this course is to provide students with an in-depth exploraton of diverse populations on college campuses. Students will utilize a broad view of diversity, including race, ethnicity, gender, religious and spiritual values, sexual orientation, socioeconomic status, disability status, and age, as well as unique characteristics of various ethnic and cultural groups that affect college students and campuses. This course will provide students with relevent skills and understanding of current theories, models, and issues within diverse populations and community building on diverse campuses. The readings, discussions, and assignments are intended to provide information for student affairs professionals, administrators, or faculty members.

EDAM 27624: College Admission And Transition 3 s.h.
Prerequisites: HIED 06605 or EDAM 27737 or COUN 26526 or COUN 26520
This course provides an overview of admissions processes in higher education in the United States and incorporates service learning to assist high school students' college search/application processes. Through the service learning experience, students completing the course will have a fuller understanding of issues in admissions, including diversity and equity issues, and how these issues affect students applying to colleges. The topics covered include the admission process, stratification in postsecondary attendance patterns, college counseling, service learning, establishing and maintaining appropriate relationships, aw well as the role of reflection in service learning. Particular attention is paid to issues of campus diversity and equitable access to postsecondary education. The readings, discussions, and asignments are intended to provide information for student affairs professionals, school counselors, administrators, or faculty members. All students will be required to complete a fingerprinting and background check process.

EDAM 27625: Change In Higher Education 3 s.h.
This course will focus on the change process both theoretically and practically. Each student will undertake an action research project that will serve as the basis for the thesis. A complete first draft of the thesis will be required by the end of this course.

EDAM 27628: Seminar/Internship In Higher Education Administration I 3 s.h.
This course is the first of a two course sequence which is intended to serve as the capstone experience for the M.A. program in higher education. Students will utilize a workplace in a higher education setting as a laboratory to study the application of higher education administrative theory to practice and to begin work on a major capstone research project.

EDAM 27629: Seminar/Internship In Higher Education Administration II 3 s.h.
This course is the second of a two course sequence which is intended to serve as the capstone experience for the M.A. program in higher education. Students will utilize a workplace in a higher education setting as a laboratory to study the application of higher education administrative theory to practice and to complete work on a major capstone research project.

EDAM 27630: Academic Advising in Higher Education 3 s.h.
Prerequisite(s): None
This purpose of this course is to provide students with an in-depth exploration of academic advising on college campuses. Students will gain a broad view of the role and function of academic advising, including its essential role in student development, engagement, retention, and success. Specifically, students will learn about the historical development of academic advising; its current role in student development, success, and retention; the role of academic advising in the multiple academic setting (community colleges, four year universities, special mission institutions); and hot to assist students in planning their academic processes. This course will provide students with relevant skills and understanding of

current research, models, and condiserations for working with diverse and special populations. The readings, discussions, and assignments are intended to provide information for student affairs professionals, administrators, or faculty members.

EDAM 27637: Higher Education Administration 3 s.h.
This course introduces students to the fundamentals of administration in the higher education setting. Topics include authority and power, implementation of institutional policy, decision-making in higher education, conflict resolution, staff supervision, and program assessment.

EDAM 27704: Changing Organizations 3 s.h.
This course focuses on the development of leadership skills that will provide students with the ability to implement change in schools and colleges. Specific topics will involve students in the study of organizational and social change, intervention theory, organizational design, group dynamics, interpersonal communication, and the use of self in leadership.

EDAM 27714: Planning And Negotiating 3 s.h.
This course teaches students to set organizational direction with specific goals and objectives to produce an integrated system of decisions regarding strategies, sub-strategies, programs and budgets that will accomplish the goals of the objectives. The course also focuses on the leadership role of creating mutual understanding and agreement among people and groups who may have fundamental differences of opinion.

EDAM 27719: Dissertation Seminar I 3 s.h.

EDAM 27720: Dissertation Seminar II 3 s.h.
Prerequisite: EDAM 27719
This course is intended to assist students as they develop their dissertation proposal and prepare for the Benchmark II, the dissertation proposal defense. Students will draft Chapters 1, 2, and 3 under the guidance of Educational Leadership Faculty members.

EDAM 27733: The Policy Environment 3 s.h.
Educational leaders must understand the policy environment within which they operate in order to equip them to resolve goal conflicts between education and its environment. This course teaches the skills to develop alternative choices to advance education. Topics include economic, political/legal, social, and science/technology policy, as well as cross-cutting issues such as entitlements, privatization, decentralization, deregulation, use of incentives, and funding of mandates.

EDAM 27735: Promoting Effective Learning 3 s.h.
In this course, students apply leadership skills through examination and analysis of learning and instruction in their school contexts. The course focuses on examining learning theories, identifying the ways in which certain patterns of activity and interaction promote learning, and applying theories to analyze learning environments. Students also use theoretical perspectives to consider the impact of educational reform and to understand how other social, political, economic, legal, and cultural factors can impact learning.

EDAM 27737: The College Student: Issues And Support Programs 3 s.h.
This course includes the study of student development and academic support in different types of institutions of higher education. Emphasizing the role of the leader, the course studies the rationale, goals, objectives, policies and organizations of selected programs of student services, as well as models for program development and assessment.

EDAM 27741: Current Issues In Higher Education 3 s.h.
This course will have a changing focus that will permit faculty to offer specialized seminars focusing on new developments in the field, on issues of significance where advanced specialization would be helpful to educational leaders, on areas of faculty research and scholarship, or in response to student requests. Multiple sections of this course, each focused on a different topic, may be offered during a semester. Students may take this course for elective credit more than once, as long as the theme of the course is different each time that the student enrolls.

EDAM 27742: The Curriculum Of Higher Education 3 s.h.
This course will examine differences of mission and resulting curricular offerings between types of higher education institutions, external and internal influences that influence the curriculum, the components of curriculum, the curriculum development process, appropriate strategies for curriculum assessment, and contemporary curricular issues.

EDAM 27746: Higher Education Governance 3 s.h.
This course will examine the layered approach to institutional governance, focusing on existing federal higher education policy, the various models of state-level higher education coordination, the function of boards of trustees, and the process of campus decision-making. Students will analyze the role of federal, state, county (if applicable), and campus policy-makers on a specific campus program.

EDAM 27748: Human Resource Development 3 s.h.
This course focuses on improving the performance of the organization through a proactive human resource development effort. It will stress the responsibility of leaders to assist staff through coaching, appraising performance, providing advice, and eliminating barriers to development.

EDAM 27749: Issues In School Governance 3 s.h.
This course identifies current issues in school governance and provides students with the understanding of how the issue develops, those instrumental in promoting the issue, and the ramifications that issue could have for the educational systems and its leader. It will focus in part on the relationships among the educational leader, the school, and state-level authorities. The course will help students to develop their understanding of the role of the educational leader as spokesperson seeking to influence the resolution of issues of school governance.

EDAM 27750: Applied Ethics Of Educational Leadership 3 s.h.
This course will enable students to examine multiple ethical paradigms, to understand the Professional Code of Ethics for educators, to determine one's own code of ethics, and to develop a model for ethical decision-making.

EDAM 27752: Advanced Leadership 3 s.h.
Prerequisite: minimum grade of B in EDST 24720
This course provides students enrolled in the doctoral program with a capstone seminar experience that is designed to synthesize the various facets of leadership, organizations and change in a way that will enable students to view issues related to these topics at a critical/deeper level of analysis while working on the dissertation. Specifically, students will be able to formulate, articulate and design a method to study their personal theory of leadership in action. The course will place special emphasis on issues of contemporary leadership in times of organizational and social turbulence.

EDAM 27780: Community College Leadership And Governance 3 s.h.
This course further develops topics taught in the overview course, The American Community College. It explores topics introduced in the first course such as community college governance and leadership in greater depth, paying particular attention to the governance activities that are the priority of community college presidents such as accountability, accreditation, the role of the federal government, the State and the relationship with the county and the board of trustees.

EDAM 27781: Community College Budgeting And Finance 3 s.h.
Prerequisites: EDAM 27782 and EDAM 27780
This course will provide an overview of community college budgeting and finance. It will review the budgeting process in New Jersey and the economic and policy context of budgeting decisions for New Jersey community colleges. There will be a focus on recognizing the fiscal constraints in which community colleges function and the various sources of funding. Students will also gain an understanding of how planning and budgeting processes are related. This course will be applied in nature, drawing upon current community college budgets.

EDAM 27782: The American Community College 3 s.h.
This course provides an overview of the history of the American Community College movement and then examines current issues in light of that history. In addition, the course explores the mission and work of community colleges including current organizational, social, economic, educational, and political challenges and opportunities facing these uniquely American institutions.

EDAM 27783: Student Development And Adult Learning Theory 3 s.h.
Students enrolled in this course will trace the historical foundations of student development theory and adult learning and development theory in higher education with a focus on traditional student and non-traditional student populations. The course will also provide students with models and techniques that guide the practice of student services administration.

EDAM 27784: Introduction to the Community Colleges 1 s.h.
This course is designed to introduce those new to the community college to its history and mission. In particular, it will serve as an introduction to American community colleges and their leadership needs. Students will develop a basic understanding of community colleges role in the postsecondary education sector, their organizational and governance structures, and the current issues facing community colleges.

EDAM 27790: Instructional Leadership And The Curriculum 3 s.h.
This course provides students enrolled in the doctoral program with learning experiences related to Instructional Leadership. Examining in depth the current "best practices," candidates will analyze the role of Instructional Leadership and curriculum. Specifically, candidates will be able to align curriculum to standards, examine potential best practices, and use assessment data to improve learning. The course will place special emphasis on how instructional leadership contributes to student learning.

EDST 24501: Procedures And Evaluation In Research 3 s.h.
The course helps students develop an understanding of research and statistics sufficient to enable them to read and evaluate research, and develop and carry out full scale research projects.

EDST 24503: Quantitative Analysis In Educational Research 3 s.h.
This introductory course is designed to assist educators in the design and implementation of research projects using quantitative methods of analysis. Using a decidedly applied approach, educators will learn how to use computerized statistical analysis programs in conducting quantitative data analyses. Further, they will learn how to compute and interpret statistics of varying types, including t-tests, F tests, r tests, chi-square and other assorted parametric and non-parametric tests of significance.

EDST 24504: Action Research In Education 3 s.h.
This introductory course introduces students to the cyclical and recursive approaches to action research. Student will engage in reflective practice and will complete an action research project in an appropriate educational setting.

EDST 24707: Applied Analysis For Educational Leadership 3 s.h.
This is an intermediate course in quantitative (statistical) analysis with emphasis upon three broad areas: applying correct statistical procedures for data analysis; using automated approaches to hypothetical testing and quantitative analysis, and using intermediate-level statistical procedures in educational inquiry. The course is expected to provide practical knowledge for use by educational leaders to support administrative decisions.

EDST 24709: Issues In Survey Research 4 s.h.
This course teaches methods for designing and implementing survey research, including how to choose a valid sample, handcraft survey instrumentation, avoid non-response bias and other threats to the validity of the survey, and analyze and communicate survey results validly and effectively.

EDST 24721: Action Research In Educational Leadership 3 s.h.
Prerequisite: Matriculation into the EducationalLeadership Doctoral Program
This course introduces doctoral students to the action research design. Students will identify a problem in practice, research the problem, and then develop and implement an action research design methodology to address the problem.

EDST 24722: Research Literature Analysis And Writing In Educational Leadership 3 s.h.
This course is designed to assist students in reading, interpreting, understanding and digesting research literature as well as to assist students in basic academic writing skills and APA style. Students will learn the function of a literature review in the research process and will learn to synthesize a body of research and write a cohesive literature review.

EDST 24724: Issues In Qualitative Analysis In Educational Research 3 s.h.
This course assists the student in preparing an acceptable dissertation proposal. Topics include alternative approaches to conducting dessertation research, designing an effective study, and recognizing and avoiding common difficulties encountered in dissertation research.

EDST 24725: Mixed Methods Research In Educational Leadership 3 s.h.
Prerequisite: EDST 24721 and EDST 24724
This course introduces students to mixed methods research approaches in education, a contemporary approach to the complex problems in the field of education today. Students will explore qualitative and quantitative methods and develop an understanding of how to read, design, conduct, and synthesize mixed methods research. Students will also practice understanding and evaluating data and research to support their decisions.

EDST 24795: Dissertation Research 1 to 12 s.h.
This is a 12 credit independent research project to be conducted in conformity with the student's dissertation proposal that has been approved by the student's doctoral committee. Students may register for all 12 credits at once or may register in four credit increments for three consecutive semesters including summer. Dissertations must be completed within three years of passage of the second benchmark.

EDSU 28510: Curriculum Design & Development for Instructional Leaders 3 s.h.
This course provides instructional leaders with an understanding of curriculum design and development from the perspective of Instructional leadership. Particular attention is focused on understanding various curriculum models, the process of curricular articulation and coherence, the relationship between curriculum and Instructional leadership and student outcomes as well as aligning curriculum with learning goals.

EDSU 28522: Instructional Leadership And Supervision 3 s.h.
In this course, students focus on the knowledge, skills, and dispositions essential for instructional leadership and the supervision of educational activities and programs. Topics include program planning, staff selection and mentoring, curriculum development and evaluation, analyzing teaching and interpersonal supervisory strategies, collaborative program development, practicing value-added leadership and supervision, reflective practice, understanding the need for diversity in teaching and learning, and communication. This course also includes a field experience component of approximately 25 clock hours in which students apply theory to practice.

EDSU 28523: Building Organizational Capacity Through Leadership And Supervision 3 s.h.
This advanced course in school leadership enables students to practice the cyclical and recursive approached to action research. Student will engage in reflective practice and will complete an action research project in an appropriate educational setting related to the teaching and learning process. This course is offered annually and includes a field experience component.

EDSU 28546: Educational Organizations And Leadership 3 s.h.
In this course, students will demonstrate an understanding of organizational theory that underlies effective leadership and supervisory behaviors in P-12 environments. Students will further demonstrate that they can analyze and supervise school and programmatic activities, nurture and supervise a vision for improvement in teaching and learning, lead and supervise change, support staff development, and use effective supervisory skills. Other topics include the history and philosophy of school leadership and supervision, effective schools, effective teaching, and the future of school leadership and supervision.

EDSU 28602: Field Service In Supervision: District Internship 1 to 6 s.h.
This course is designed to respond to the needs of school administrators and supervisors for developing effective supervisory skills. The content for each course offering will be determined after a local analysis of needs has been conducted. Semester hour credit will be assigned prior to registration.

EDSU 28706: Diversity And Educational Leadership 3 s.h.
This course deals with diversity both among the student body and the workforce. It addresses the ways that people are alike and explores issues of difference. It focuses on the power that valuing difference can have in establishing quality interpersonal relations, in taking advantage of the cultural richness that can result from diversity, and in creating mutual respect among groups. It examines how the educational leader might overcome resistance to change in this regard.

EDSU 28715: Leadership Theory 3 s.h.
This course is the foundation course for the Doctoral Program in Educational Leadership. Leadership will be defined, demystified, and distinguished from management and administration. The roles and expectations of leaders will be explored, and the competencies required for leadership will be identified. Issues of power, authority, and ethics are studied.

HIED 06603: Seminar/Internship In Higher Education Instruction 4 s.h.
The goal of this seminar is to prepare students to teach in a higher education setting in selected areas by engaging them in a comprehensive instructional internship in a cooperating institution of higher education. The seminar will provide the opportunity to explore best practices in instruction and to reflect on the internship experience.

HIED 06605: Higher Education In America 3 s.h.
This course focuses on issues and trends within higher education regarding institutional mission, the student body, curriculum, faculty, student services, governance, administration, finance, and community service (including economic development). The course will examine the challenges and opportunities confronting higher education.

HIED 06606: Selected Topics In Higher Education 3 s.h.
This course explores a topic of importance in the field of higher education. The focus will be different each time that the course is offered. Examples of courses that might be offered include: New Directions in Financial Aid; Outcomes Assessment; Distance Learning; State Higher Education Systems; Federal Policy and Higher Education; Student Activism.

HIED 06609: Effective Teaching in Academic, Corporate, and Government Settings (3 S.H.) 3 s.h.
Co-listed as ENGR 01.601 Effective Teaching in Academic, Corporate, and Government Settings.
Effective Teaching in Academic, Corporate, and Government Settings (3 S.H.)
This purpose of this course is to provide students with an in-depth exploration of effective teaching practices in academic, corporate, and government settings. Students gain a broad view ofthe role and function of teaching and oral presentation, as well as how to communicate effectively in these settings. Specifically, the course introduces instructional methods and strategies, adult learning theory and implications for effective teaching, documenting and assessing student learning, and how to improve instruction in academic, corporate, and government settings. Several real-world scenarios are discussed and simulated, including preparing academic courses and corporate training packages, assessing audience background and setting appropriate technical rigor and level, building classroom/meeting room/ presentation room management skills, conflict avoidance and resolution in such settings, effective strategies for delivering technical content at meetings and conferences, and answering audience questions that may be adversarial in nature. The course provides readings, discussions, assignments, and most importantly ample opportunities for practice teaching, including a semester-long apprenticeship with experienced faculty, allowing students to experience all aspects of teaching and classroom management.
Co-listed as ENGR 01.601 Effective Teaching in Academic, Corporate, and Government Settings (3 S.H.)

HIED 06610: Assessment and Evaluation in Health Professions Education 3 s.h.
Prerequisite(s): CURR 29503 and EDAM 27742
This course introduces medical school faculty members and other health professionals to assessment and evaluation in health profession education, including a focus on student learning outcomes and program evaluation to enhance the curriculum. The ability to utilize data to make decisions on students' progress, on curricular alignment, on course and program learning goals, and on improving student and programmatic outcomes are critical to the success of health professions educators. Students will learn multiple approaches for assessment and evaluation, hot to operationalize learning goals for effective assessment and evaluation, how to utilize multiple assessment tools and approaches, how to develop assessment and evaluation plans, and how to utilize assessment and evaluation data in decision-making.

HIED 06611: Applied Instructional Techniques and Practices 3 s.h.
Prerequisite(s): HIED 06610
This course provides an opportunity for medical school faculty members and other health professionals to develop their skills as master teachers by enganing in project-based demonstrations of their ability to create learning experiences for diverse learners in multiple contexts, including large and small group sessions, clinical settings, and simulations. This course synthesizes previous coursework from Teaching Adult Learners, The Curriculum of Higher Education, and Assessment and Evaluation in Health Professions Education and provides opportunities to apply this knowledge.

HIED 06612: Organizational Development: Understanding the Structure/Function/Cultures of Health Organizations 3 s.h.
Prerequisite: EDSU 28715
This course provides an opportunity for medical school faculty members and other health professionals to develop their skills in organizational development as pertaining to health professions organizations. The course focuses on understanding different models and functions of organizational structures. Additionally, the course includes a focus on understanding how organizational cultures develop, and developing the ability to apply various models to promote organizational development.

HIED 06613: Professional Development: Promoting a Culture of Continuous Improvement in Hlth Organizations 3 s.h.
Prerequisites: EDAM 28715, HIED 06612, EDAM 27625
This course introduces medical school faculty members and other health professionals to continuous improvements in organization through mentorship and professional development in health professions education. The course builds on earlier courses in leadership, change, and organizational development and engages students in understanding how leaders promote continuous improvement through mentorship and professional development.

PSY 06628: Individual Psychodiagnostics II 3 s.h.
This course will focus on cognitive and educational assessment based on the Cattell-Horn-Carroll (CHC) theory of intelligence. Administration and interpretation of the Stanford-Binet: Fifth Edition and the Woodcock-Johnson Assessment Battery: Third Edition will be the course competencies. Special assessment issues covered will include nondiscriminatory assessment, preschool assessment and the assessment of academic achievement, with particular emphasis on the assessment process as a link to classroom cognitive and instructional intervention.

PSY 06632: School Psychology: Consultation And Intervention 3 s.h.
The course is designed to help students become familiar with alternative frameworks for educational delivery systems including emerging skills in instructional and collaborative consultation, teaming strategies, curriculum based assessment and measurement, and intervention strategies in the academic, behavior and social areas. Emphasis is placed in viewing the problems children experience in schools from a systems or ecological perspective as opposed to residing within the child. The role of the school psychologist will be enlarged to permit their effective participation in transdisciplinary school based terms.

SNUR 92407: School And Family Issues For Children With Ongoing Health Care Needs 3 s.h.
This course explores various health care needs of the chronically ill school age child. There is an emphasis on the importance of collaboration between home and health care providers. Family dynamics and legal issues are discussed and resources are identified. The teacher's role in meeting both the educational and health care needs of children is stressed.

SNUR 92430: Methods And Materials In Health Teaching For School Nurses 3 s.h.
This course emphasizes the school nurse's expanding role as a classroom health teacher as well as a resource person to the school staff. Discussions and experiences will center on theories of teaching and learning, planning for teaching, curriculum development, the New Jersey Core Curriculum Content Standards (NJCCCS), teaching strategies, educational resources, classroom management, assessment, and the integration of health teaching into varied school subjects. A K-12 classroom experience is included to facilitate the integration of theory into the clinical practice.

SNUR 92444: Practicum In School Nursing 3 s.h.
Prerequisites: SNUR 92466
The purpose of this field experience is to provide an opportunity for the student to engage in a mentoring relationship with an expereiced, certified school nurse. The student will have the opportunity to observe and participate in the carious roles, functions, and activities of the school nurse. A college supervisor will visit the student in the field placement situation. Meetings of all students enrolled in the Practicum are held periodically at the college. *Pre-registration consultation with instructor is required.

SNUR 92445: Internship In Health Teaching For School Nursing 3 s.h.
Corequisites: SNUR 92448 Prerequisites: SNUR 92430 andSNUR 92466
The purpose of this field experience is to provide an opportunity for the student to utilize INTASC principles, the NJ Comprehensive Health Education and Physical Education Curriculum Framework and the NJ Core Curriculum Content Standards to teach health classes in a classroom setting. A college supervisor will visit the student in the employed or field placement situation. This course is taken concurrently with SNUR92.448. Pre-registration consultation with program advisor is required one semester prior.

SNUR 92466: School Health Services 3 s.h.
The framework for School Health Services and Policies within the functions of the school nurse will be discussed, as well as specific functions and roles to include that of the school nurse within the comprehensive school counseling program and the interface between health services and nationally utilized school guidance counseling standards and indicators. Particular emphasis will be placed on school and community activities relating to students, their families and other educational personnel.

SNUR 92751: Instructional Design & Curriculum Development In Nursing Education 3 s.h.
Prerequisite: EDAM 27783
This course explores the developing role of the nurse as an educator and Instructional leader. The process from institutional design, curriculum development, methodologies, strategies and outcomes will be emphasized to facilitate the learning process.

SNUR 92752: Nursing Program Evaluation & Information Resources 3 s.h.
Prerequisites: EDAM 27783 and SNUR 92751
This course will explore how information technology and resources are transforming nursing education. The methodology of evaluating comprehensive nursing programs within the context of core competencies, technology, standards, and accreditation for quality management are reviewed.

SNUR 92753: Practicum In Nursing Education 3 s.h.
Prerequisites: EDAM 27783 and SNUR 92751and SNUR 92752
This practicum will provide the student with the opportunity to synthesize and apply acquired knowledge and skills in a planned and guided teaching-learning environment through the mentorship process.

SPSY 06627: Cognitive Assessment And Data-Based Decision Making 3 s.h.
Prerequisite(s): Matriculation in the Educational Specialist Program in School Psychology or by permission of the Program Coordinator or Course Instructor
This course will focus on an overview of theories of intelligence as well as the use, organization and interpretation of individual standardized tests. Specifically, administration and interpretation of the Wechsler Scales will be expected outcomes of the course. This includes training on the WPPSI-III, the WISC-IV, the WAIS-III and the WIAT-II, with particular emphasis on the assessment process as a link to classroom cognitive and instructional interventions.

SPSY 06628: Psychoeducational Assessment And Data-Based Decision Making 3 s.h.
This course will focus on cognitive and educational assessment based on the Cattell-Horn-Carroll (CHC) theory of intelligence. Administration and interpretation of the Stanford-Binet: Fifth Edition and the Woodcock-Johnson Assessment Battery: Third Edition will be the course competencies. Special assessment issues covered will include nondiscriminatory assessment, preschool assessment and the assessment of academic achievement, with particular emphasis on the assessment process as a link to classroom cognitive and instructional intervention.

SPSY 06629: Behavioral-Social Assessment And Data-Based Decision Making 3 s.h.
Prerequisites: SPSY 06628
This course will focus on an overview of personality and behavioral assessment. This will include instruments and techniques (standardized and clinical) for obtaining information regarding emotion, behavior, motivation, self concept, and interpersonal and attitude characteristics as distinguished from cognitive abilities. There will be an emphasis on interpreting data from multiple sources to achieve the goal of describing the personality and behavior.

SPSY 06632: School Psychology: Consultation, Collaboration And Intervention 3 s.h.
Prerequisite: SPSY 06629
The course is designed to help students become familiar with alternative frameworks for educational delivery systems including emerging skills in instructional and collaborative consultation, teaming strategies, curriculum based assessment and measurement, and intervention strategies in the academic, behavior and social areas. Emphasis is placed in viewing the problems children experience in schools from a systems or ecological perspective as opposed to residing within the child. The role of the school psychologist will be enlarged to permit their effective participation in transdisciplinary school based terms.

SPSY 08545: Home/School/Community Collaboration 3 s.h.
This course is designed to promote students' knowledge, skills and dispositions regarding positive home-school and community collaborations. Topics include the study of families and schools as separate systems, ways in which family systems, theory, diversity, and disabilities affect both a student's learning and behavior, and the families' relationships with schools. The role of educational helping professionals and methods of collaboration between home, school, and community that will facilitate effective comprehensive services will be examined.

SPSY 08547: Professional School Psychology 3 s.h.
The purpose of this course is to introduce students to current theory, research, practices and issues in school psychology and to the code of ethics that guides the field. Particular emphases are conceptual, professional, legislative, legal and ethical issues, and emerging problems in school psychology. Students will apply these issues to their own training and professional development. The student will be introduced to the conceptualization of the school psychologist as a problem-solver who links assessment to intervention and provides both direct and indirect psychological services.

SPSY 22600: Applied Research Seminar I: School Psychology 3 s.h.
This course will concentrate on the latest developments in the field of school psychology, emphasizing evidence-based practice and research findings. Students will be expected to design an applied research project in the field of school psychology. In addition, students will participate in a school-based field experience to directly observe the role of the school psychology practitioner.

SPSY 22601: Applied Research Seminar II: School Psychology 3 s.h.
Prerequisite: SPSY 22600
This course will concentrate on the latest developments in the field of school psychology, emphasizing evidence-based practice and research findings. Students will conduct an applied research project in the field of school psychology. In addition, students will demonstrate their knowledge in school psychology through a comprehensive assessment.

SPSY 22623: Internship In School Psychology 3 s.h.
Prerequisite: SPSY 22630
The 3-credit course entitled 'Internship in School Psychology' is a 300-hour experience completed on a half-time school week basis over four consecutive semesters in a school setting. Students are placed in approved sites for their internship experience where they are supervised by an appropriately credentialed school psychologist. Interns receive at least one hour of field-based supervision per week from a practicing school psychologist, who is responsible for no more than two interns at any given time. Interns are expected to attend scheduled Internship classes on the Rowan University campus. To complete the EdS in School Psychology and to be eligible for NJ Department of Education certification as a School Psychologist, students must complete 12 credits of Internship in School Psychology totaling 1200 hours of field experience.

SPSY 22630: Practicum In School Psychology 3 s.h.
This course emphasizes psychoeducational assessment, intervention, and strategies for the student with special needs. Practical experiences in psychoeducational assessment and consultation strategies with students are provided, as well as, with staff and parents. The practical experiences are provided within the Special Educational Services Clinic or other educational/mental health service programs. Instruction as well as supervision is provided as part of this pre-externship experience.

SPSY 22634: Internship In School Psychology 6 s.h.
This is a full school year internship in School Psychology with placement in a public school. Monthly meetings will focus on discussion of psychological diagnosis, educational remediations and research based upon consideration of case materials related to externship experiences; review of current theoretical and experimental developments in school psychology.

SPSY 25516: Applied Tests And Measurements 3 s.h.
Emphasis is placed upon data-gathering, the evaluation of data and the use of data in educational measurement. Standardized tests, both gruop and individual, will be studied.

ECE 09504: Special Topics in Electrical and Computer Engineering 1 to 3 s.h.
This course covers timely topics in electrical and computer engineering related to engineering practice and/or research.

ECE 09509: Virtual Reality Systems 3 s.h.
Virtual Reality (VR) Systems covers the architecture a;nd design of current generation systems for creating 3D VR environments. Topics included are application/hardware architecture, pipeline development, geometric transformations in a 3D coordinate system, geometry and pixel shading, lighting systems, texturing and VR development. Students will be exposed to current VR technologies and next generation algorithms. As a graduate level course, students are expected to gain a solid foundation in SLSL shader theory, advanced object oriented design techniques, pathfinding algorithms, and apply these techniques to independent research experience to a problem of their choosing.

ECE 09521: Fundamentals of Systems Engineering 3 s.h.
Prerequisite: ECE 09321
Systems Engineering is the interdisciplinary approach and means to enable the realization of today's complex, dynamic products and systems. Individual products such as Cell phones, aircraft, automobiles, computers and even household appliances are made up of parts developed by many people with varied skill sets, often working for different companies and from remote locations. Other systems such as transportation, energy generation and distribution, medical, communications, emergency response and similar are very complex as they are composed of many varieties of products and systems. Systems Engineering is an integrating function that addresses all the disciplines and specialty groups resutling in a structured development process that proceeds from concept to production to operation including maintenance & support, and eventual disposal. Systems Engineering considers both the business and the technical needs, including environmental and safety, of all customers with the goal of providing a quality product that meets the user needs. It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, proceeding with design synthesis and system validation while considering the complete problem that includes - operations, cost & schedule, performance, training & support, sustainment, test, disposal, and manufacturing. The course is designed to expose the student to the system engineering process to complement their technical skill set and to cover topics that are often not covered in other classes. The course will include frequent guest lecturers who are practicing experts in the systems engineering domain. The course will utilize the latest in processes and software tools from industry such as SysML modeling and architectural documentation tools. Students will participate in a semester long project to gain hands-on experience with the course concepts. This graduate level course will also provide opportunities for team management and cultivation of leadership and communication skills.

ECE 09523: Advanced Radar Systems 3 s.h.
This course will provide an introduction to radar systems, range equation and radar signal processing techniques as well as the nature of physical observables and propagators, the effects of the propagation medium on sensor performance, the relationship between signals and noise, and the characteristics of critical sensor functions (including detection and tracking). Radar subsystems will be studied, including antennas, transmitters, receivers, and signal processors. This will also feature a project component for students to identify, research and present open problems that are relevant to radar systems.

ECE 09524: Advanced War Gaming and C4ISR 3 s.h.
This course will expose students to a comprehensive range of technologies that govern the effectiveness of our nation's ability to effectively conduct military operations. It focuses on material drawn from a working group of distinguished thought leaders in critical technology and operations areas, thereby exposing students to the state-of-the-art thinking and philosophies. The class material will be enhanced by the study of patents that relate to the subject which were issued to the courses instructor. This course will also include advanced topics such as C4ISR algorithms, and graduate students taking this class will be expected to work on a course project involving implementation of important C4ISR algorithms.

ECE 09525: Advanced Command and Control 3 s.h.

Command and Control (C2) is defined as the exercise of authority and direction over assigned forces in order to accomplish a mission. This course will embark on a study of C2 information processing and decision making in the context of adaptive combat systems, as well as civilian and business examples. The course topics include the following: the history of military C2, C2 decision processes (Observe-Orient-Decide-Act loops), problem sense making (Identification) and solution finding and implementation processes, operational architectures, information fusion, control theory, mission success and organizational fitness. The course will also feature a project component for which the students will identify research, execute and present a solution to a problem that is relevant to course content.

ECE 09526: Advanced Weapon Systems 3 s.h.

This course will study system engineering principles in the weapon system components and will relate the principles used in components such as prelaunch decision processing and missile in-flight control functionality to the robustness of the overall combat system. Missile systems will be studies, including basic aerodynamics and propulsion. The engineering principles discussed will be used to develop missile guidance laws and track filters to support a robust combat system design. In addition to these, advanced topics such as track fusion and advanced guidance laws will be discussed, and graduate students taking this class will be expected to complete a project which shows competence and understanding of these advanced topics in addition to course requirements of the undergraduate version of this class.

ECE 09551: Advanced Digital Signal Processing 3 s.h.

Prerequisites: ECE 09351

This is a graduate level course in digital signal processing (DSP), whose applications include analysis, compression, recognition and processing of all telecommunications, audio – visual, biomedical, financial, energy demand and consumption, seismic/tectonic/oceanographic data, among many other countless systems possible. The primary goal of this class is to introduce advanced topics in signal processing and filter design approaches that allow analysis of real-world signals that cannot be easily analyzed by the basic approaches discussed in the undergraduate level DSP course. Such signals include non-stationary signals with time-varying spectra as well as those scenarios where signal and noise spectra overlap. The specific topics that will be discussed in this class include advanced filter design and implementation approaches, filter banks, analysis of random signals and spectral estimation, analysis of non-stationary signals using short-time Fourier transforms and wavelet transforms, optimal and adaptive filters, and signal separation techniques such as independent components analysis. This is an applied class and will feature several real-world projects.

ECE 09552: Digital Image Processing 3 s.h.

Digital image processing covers the analysis and contemporaneous applications of the enhancement, restoration, compression and recognition of monochromatic images. Both classical and state-of-the-art algorithms will be employed in conjunction with appropriate software for analyzing real-world images.

ECE 09553: Digital Speech Processing 3 s.h.

This course covers the fundamentals of digital speech signals and processing and simultaneously stresses real-life engineering aspects from a systems perspective. An overview of the different branches of speech processing are covered, namely, speech production, vocal tract modeling, speech coding, speech recognition, speaker recognition and speech synthesis. The building blocks of such applications, namely, linear predictive analysis and quantization (scalar and vector) are taught.

ECE 09554: Theory and Engineering Applications of Wavelets 3 s.h.

The theory of wavelets gave rise to a substantial number of applications in many areas including various fields of engineering, making it one of the most popular research areas of all times. In this class, the theory of wavelets will be carefully developed from the ground up, with an emphasis on engineering applications. Starting with a review of Fourier based signal analysis methods, short time Fourier transform, continuous wavelet transform, discrete wavelet transform, fast wavelet algorithms, wavelet packets, wavelet networks will be discussed. Applications of wavelets such as image and audio compression, biological signal analysis, feature detection, signal denoising will also be explored.

ECE 09555: Advanced Topics in Pattern Recognition 3 s.h.

This class will introduce a broad spectrum of pattern recognition algorithms along with various statistical data analysis and optimization procedures that are commonly used in such algorithms. Although mathematically intensive, pattern recognition is nevertheless a very application driven field. This class will therefore cover both theoretical and practical aspects of pattern recognition. The topics discussed will include Bayes decision theory for optimum classifiers, parametric and nonparametric densityestimation techniques, discriminant analysis, basic optimization techniques, introduction to basic neural network structures, and unsupervised clustering techniques. As a graduate level course, several advanced and contemporary topics will also be covered, including fuzzy inference systems, support vector machines, adaptive resonance theory, incremental learning and online learning and particle swarm optimization. Students will be expected to conduct independent research for possible publications, as part of the class project.

ECE 09556: Advanced Embedded Software Design 3 s.h.
Prerequisites: ECE 09342
Embedded systems dramatically enhance our lives and are prolific in our everyday life. It is not uncommon for Americans to come in contact with over one hundred embedded systems each day. With billions of embedded systems, being produced each year there is a huge need for engineers who can create good embedded software. This course focuses on embedded software for applications running directly on an embedded processor without an operating system. A brief survey of microcontroller technologies will be covered but the class will focus on ARM microcontrollers and the embedded peripherals available on such devices. Advanced embedded communications technologies (CAN, WiFi, Bluetooth, ZigBee, etc.) will be surveyed and at least one implemented during the course. A great emphasis will be put on good programming practices and design patterns which support working in larger groups. Additionally, students will learn project management skills and will be required to manage a team of undergraduate engineers to accomplish a real world embedded system project.

ECE 09557: Advanced Biometric Systems 3 s.h.
Biometrics is the science of recognizing and authenticating people using their physiological and/or behavioral characteristics. By using biometrics, it is possible to establish an identity based on "who you are", rather than by "what you possess" (e.g., an ID card) or "what you remember" (e.g., a password). Interest in biometrics has increased significantly with a global market that is experiencing very rapid growth. Border and immigration control, restricted access to facilities and information systems, cybersecurity, crime investigations and forensic analysis are just a few of the primary application areas of biometrics used by commercial, government and law enforcement agencies. There is much research interest in different biometric systems with the main issues being high performance, ease of use and implementation, low cost and high user acceptance. This course involves the study and design of various biometric systems (fingerprints, voice, face, iris and other modalities). Multibiometric systems are also covered. This includes feature fusion, classifier fusion and systems that use two or more biometric modalities. Biometric system performance and issues related to the security, ethics and privacy aspects of these systems will also be addressed. Course principles are reinforced by a significant project or research experience.

ECE 09560: Artificial Neural Networks 3 s.h.
Artificial Neural Networks covers the design of a variety of popular neural network architectures and their contemporary engineering applications. Neural network architectures that will be studied in detail include the multilayer perceptron, radial basis function, and the Hopfield networks. State-of-the-art software will be used for network design. VLSI implementations of neural networks will be discussed.

ECE 09566: Advanced Topics in Systems, Devices, and Algorithms in Bioinformatics 3 s.h.
Prerequisites:
Bioinformatics is the field of applying computational techniques, from mathematics, statistics, and machine learning, to the vast amounts of biological - but most specifically genomic - data. While some refer to bioinformatics only in the context of collection, storage, organization and access of such biological data within large databases, this course's view of bioinformatics will include - in fact focus on - systems and devices that generate such data, and development of methodologies and models to analyze the vast quantities of data generated by such systems and devices. The course will provide basic biological background of genomics, will introduce the students to commonly used bioinformatics databases and computational tools (such as search, alignment, and protein visualization tools) used to analyze genomic data from such databases. The focus of the course will be on basic bioinformatics systems and devices, such as high throughput next generation sequencers and genechips, followed by an in-depth discussion on the theory of basic genomic signal processing and computational intelligence techniques used in bioinformatics, including hidden Markov models and optimization algorithms for sequence alignment and gene prediction, clustering and classification algorithms. This course will also provide students with a mechanism to conduct independent research to advance the field through development of novel algorithms and approaches.

ECE 09568: Discrete Event Systems 3 s.h.
Prerequisites: ECE Majors: ECE 09243 Non ECE Majors: Permission of Instructor
Thsi course introduces fundamentals of discrete event system models and their applications in modeling, control, analysis, validation, simulation, and performance evaluation of computer systems, hardware/software co-design, manufacturing/de-manufacturing processes, communication networks, and transportation, etc. The mathematical and graphical models include graphs, finite state machine, Petri Nets, timed models, stochastic timed models, and Markov chains, etc. As a graduate level course, it also provides students with a mechanism (a) to conduct independent research on advanced and contemporary DES topics, including higher-level Petri Nets, finite automata based supervisory control, and Petri Nets in job shop scheduling, etc; and (b) to develop novel models and algorithms for DES.

ECE 09569: System-On-Chip Verification 3 s.h.
Prerequisite: ECE Majors: ECE 09243 Non ECE majors: Permission of Instructor
This course introduces students to a variety of state-of-the-art hardware design verification methods, including traditional functional simulation, assertion-based verification and a subset of formal verification techniques. Topics covered include functional simulation, coverage metrics, testbench design and automation, assertion-based verification, and property specification language (PSL). As a graduate level course, students are expected to gain a solid foundation in current, practical chip verification techniques, underlying theory, and significant independent research experience applying the techniques, particularly formal verification methods, to a real problem of their own choice.

ECE 09571: Instrumentation 3 s.h.
Elements of instrumentation systems are treated including transducers, signal conditioning, and signal processing. Elements of modern instrumentation systems including standards (IEEE-488, SCPI) and smart sensors are considered.

ECE 09572: Advanced Smart Grid 3 s.h.
Prerequisites: ECE 09342 and ECE 09321
The ways in which electricity is generated, transmitted, distributed, stored, and used, are the subject of revolutionary and evolutionary changes compared to the electricity grid we have today. Smart Grid goals include the improvement of grid reliability, reduction in outages, faster return on service, ability to integrate a broad range of renewable energy sources, and to include customers in the ability to effect load decisions based on grid demand and energy pricing. This course will address grid fundamentals, tools and technologies, and then address major Smart Grid subsystems including conventional and alternative generation, storage technologies, transmission and distribution systems, standards, demand management, real-time pricing, grid stability, control technologies, measurement including Smart Sensors and Advanced Metering Intrastructure. Physical and cyber vulnerabilities will also be addressed. The course will include a project to reinforce Smart Grid elements.

ECE 09573: Advanced Smart Sensors 3 s.h.
Prerequisites: ECE 09342 AND ECE 09311 AND ECE 09321
Elements of Smart Sensors and Smart Sensor systems are treated. Instrumentation fundamentals covered include transducers, signal conditioning, and data acquisition, communication, along with important considerations and associated standards. Relationship of smart sensors to integrated system health monitoring (ISHM) and similar Intelligent Sensor applications are addressed. The course will include a project to reinforce Smart Sensor elements and provide opportunities for research in the field.

ECE 09582: Advanced Memristors and Nanoelectronic VLSI 3 s.h.
This course is an advanced course in the extension of analog/digital electronic systems, dealing with CMOS devices and emerging nanoelectronic devices and technologies. Since the importance of emerging nano systems goes beyond traditional circuit theory and EE in general, this course aims to provide students with an opportunity of understanding the fundamental concepts of a set of emerging nanodevices, with particular emphases on memristors and memristive systems, and their potential applications and impacts on the next generation VLSI systems. The course will also emphasize hands-on programming and application to examples as an important means to understand and benefit from the material. Software tools such as Matlab/SPICE/Cadence will be extensively used throughout the learning and design experiments.

ECE 09585: Advanced Engineering Cyber Security 3 s.h.
Prerequisite(s): Graduate standing
This course addresses the need to better prepare students for the expansion in the Internet of Things (IoT) by imparting fundamental concepts and capabilities in the management of cyber security. Cyber security is key to developing large-scale, wide-area systems, which can provide the degree of security required to further implementation of highly-vulnerable, highly-visible systems such as the Smart Grid. To gain this understanding, the course addresses a number of key components: standards including network and encryption techniques (RSA, etc.) and security processes, methods of cyber attach, and some methods of software and hardware security enhancement. COurse principles are reinforced by a significant project or research expereince.

ECE 09586: Advanced Portable Platform Development 3 s.h.
Prerequisite(s): ECE 09443
The total number of Android and iOS devices is estimated to be over 1.6 billion devices (2013) and continues to grow. The ubiquitous nature of these devices means they are now the default choice of platforms for hardware and software developers. This course details the ARM core architectures, which underpin the majority of mobile devices, along with the basic operating system and application software environments. Principles of effective app development using available SDK tools and project management techniques are presented. Methodologies for performance analysis are treated. The hardware vs. software trade space will also be considered. The course content is reinforced with a significant development project.

ECE 09590: Advanced Emerging Topics in Computer Engineering 1 to 3 s.h.
Prerequisite(s): Specific prerequisites are determined by the nature of the course content when it is announced.
This course covers special topics in emerging areas of Computer Engineering such as Computer Networks, Mobile Robotics, and Embedded Systems.

ECE 09595: Advanced Emerging Topics in Computational Intelligence, Machine Learning and Data Mining 1 to 3 s.h.
Prerequisite(s): Specific prerequisites are determined by the nature of the course content when it is announced.
As the amount of data we generate grow astronomically, so does the need for approaches, algorithms, techniques and the hardware that can be used for effective processing, storing, and analysis of such massive volumes of data. Computational intelligence, machine learning and data mining all deal with automated analysis of large volumes of data in search of known or hidden structures, patterns and information. While well-established approaches that now form the foundations of these topics are discussed in other specifically named courses, this graduate level course will provide an advanced treatment of emerging topics - fueled by rapid growth of research and development in these areas - but that have not yet reached the mainstream textbooks. Hence, due to its very nature, the specific content of this class will be diffrent every time it is offered, focusing on the most recent developments in these areas. Graduate students taking this class will be expected to complete a project on a class related emerging topic of their interest.

ECE 09604: Special Topics for Doctoral Students in Electrical Engineering 1 to 6 s.h.
This class provides timely coverage of specific advanced and emerging topics in Electrical and Computer Engineering, and it is intended for doctoral students. Special topics courses may be traditional classroom-based courses as well as research-related courses supervised by specific advisers. This class may be taken multiple times when offered with a different special topics content.

ECE 09651: Estimation and Detection Theory 3 s.h.
Prerequisite(s): ECE 09430
Modern estimation and detection theories can be found at the heart of many engineering systems including radar, sonar, speech, image analysis, biomedicine, communications, control and seismology. All these systems share the common problem of needing to estimate the values of a group of parameters or being able to decide when an event of interest occurs and then to determine more information about that event. In radar, we are interested in determining the position of an aircraft, as for example, in airport surveillance radar. The task of information extraction is the subject of estimation theory; and the task of decision making is the subject of detection theory. The course will showcase numerous examples that illustrate and apply the theory to current problems of interest in engineering.

ECE 09655: Advanced Computational Intelligence and Machine Learning 3 s.h.
Prerequisites: ECE 09.455 or ECE 09.555 or ECE 09454 orECE 09.560 or CS 07.556
Computational Intelligence and Machine Learning deal with automated classification, identification, and/ or characterizations of unknown systems based on data, typically – and increasingly – large volumes of data. This course is an advanced research-intensive graduate level course that explores the more advanced and emerging topics of computational intelligence, such as – but not limited to – graphical models, Monte Carlo approaches, incremental and online learning, learning in nonstationary environments, deep belief networks, and other topics that are emerging at the time of offering. In fact, the exact content of the course is likely to evolve over the years due to the rapid development of the field. As an advanced research intensive course, this class will involve a thorough literature search and review, followed by proposing, executing and presenting results on a novel real-world computational intelligence problem that is of research interest to the student. Students will be encouraged to publish the outcomes of their research project.

ENGR 01600: ToughTalk: Graduate Seminar in Engineering 0 s.h.
Prerequisite(s): Graduate or Ph.D. student standing
One of the primary goals of the Ph.D. in Engineering program is to teach the candidate how to identify unsolved problems in engineering, formulate a hypothesis for a feasible solution, design experiments or analysis methodologies to implement the proposed solution, analyze results and draw conclusions, all of which require critical and analytical thinking and problem solving skills, command of the general body of knowledge as well as state-of-the-art in the area of interest. This is seminar course where every week on graduate student or guest speaker will present the state-of-the-art in his/her area of research interest.
This course will allow the presenter to describe an unsolved problem of interest, complete a thorough literature review about related work, and/or present his/her work in that area, and receive comments, suggestions and critical feedback from the audience. The course will also allow audience members to learn a new topic, provide feedback to their peers, and be familiar with the breadth of research taking place in the college, while providing a forum for general exchange of ideas within the college, bringing research active college community together for livey discussions.

ENGR 01601: Effective Teaching in Academic, Corporate and Government Settings 3 s.h.
Prerequisite(s): Ph.D. student status
This unique course, team-taught by faculty and professionals in education, engineering and industry, provides students with an in-depth exploration of effective teaching practices in academic, corporate, and government settings. Students will gain a broad view of the role and function ofteaching and oral presentation, as well as how to communicate effectively in these settings. Specifically, this course will introduce instructional methods and strategies, adult learning theory and implications for effective teaching, documenting and assessing student learning, and how to improve instruction in academic, corporate, and government settings. Several real-world scenarios will be discussed and simulated, including preparing academic courses and corporate training packages, assessing audience background and setting appropriate technical rigor and level, building classroom / meeting room / presentation room management skills, conflict avoidance and resolution in such settings; effective strategies for delivering technical content at meetings and conferences, and answering audience questions that may be adversarial in nature. The course will provide readings, discussions, assignments, and most importantly ample opportunities for practice teaching, including a semester-long apprenticeship with Engineering faculty, allowing the student to experience all aspects ofteaching and classroom management. The course will also feature guest speakers from industry and government agencies providing unique perspectives for effective teaching and presentation at such settings.

ENGR 01602: Strategic Technical Writing and Winning Grant Proposals 2 s.h.
Prerequisite(s): Successful completion of the Ph.D. Qualifier Examination
Effective technical writing is perhaps one of the most critical skills a Ph.D. engineering graduate needs to have regardless of the career path chosen upon graduation. Whether writing research papers, technical reports, or grant proposals, the ability to convey technical engineering knowledge in an effective, understandable, elegant and concise manner is an important skill. This class will provide the general guidelines, best practices, and most importantly specific strategies for technical writing for some of the most common venues and audiences, namely writing technical papers for engineering conferences and journals - including writing rebuttals to reviewers - technical reports and grant proposals. The latter includes specific strategies for a variety of different sponsors that fund engineering related research, including industrial sponsors, government and military agencies, foundations as well as intra-company funding sources. The deliverables of this class includes an actual conference or journal paper and a small scall grant proposal-ready to be submitted - based on student's area of research.

ENGR 01501: Special Topics In Engineering 1 to 3 s.h.
This course is designed to introduce students to emerging topics in the engineering field. Consent of the instructor is necessary, and prerequisites are determined by the nature of the topic.

ENGR 01510: Finite Element Analysis 3 s.h.
Fundamental concepts for the development of finite element analysis are introduced. The element stiffness matrices are developed using shape functions defined on the elements. Aspects of global stiffness formation, consideration of boundary conditions, and nodal load calculations are presented. Mesh division and problem modeling considerations are discussed in detail. Topics of scalar field problems and natural frequency analysis are covered. Computer applications are included.

ENGR 01511: Engineering Optimization 3 s.h.
The formulation and modeling aspects of engineering optimization problems are presented. These steps involve setting up of the objective function to be minimized and the resource and system constraints to be satisfied. Solution techniques using gradient based methods, zero order methods, and penalty techniques are discussed.

ENGR 01598: Engineering Graduate Research 1 to 3 s.h.
The objective of this course is for students to define and conduct graduate-level research with the supervision of their graduate advisor.

ENGR 01599: Master's Research 1 to 6 s.h.
This course will provide a meaningful one-on-one research experience under the direction of an engineering faculty advisor. The research topic will be chosen by mutual agreement of the student and his or her adviser. The course will include a thorough literature search and review, the development of a clear and concise problem statement, consultations with other faculty and professional experts, and the derivation of publishable results.

ENGR 01699: Doctoral Research and Dissertation 1 to 6 s.h.
Prerequisite(s): Successful completion of the Ph.D. Qualifier Examination / Ph.D. student status
One of the primary goals of the Ph.D. in Engineering program is to teach the candidate how to identify unsolved problems in engineering, formulate a hypothesis for a feasible solution, design experiments or analysis methodologies to implement the proposed solution, analyze results and draw conclusions, all of which require critical and analytical thinking and problem solving skills. Achieving such a goal requires methodical and persistent effort over a long period of time for obtaining command of the general body of knowledge as well as the state-of-the-art in the area of interest, followed by indentifying an unsolved problem that is worth solving, followed by developing and verifying solution(s) and finally disseminating the new knowledge created by this process. Since this is a long term process, it can only be achieved by dedicating significant time

and effort to this process. Doctoral Research and Dissertation is a variable-credit independent study based research course that is designed to provide the student necessary time and guidance to help him/her achieve the aforementioned goals. Students are expected to take appropriate number of credits of this class each semester they are materially involved with doctoral research, culminating with preparation, execution, and defense of the Dissertation. Each section of this course is associated with a faculty member, and each student will take that section od this course that is associated with his/her Ph.D. Advisor, who will be guiding the student's doctoral research. Students will be required to take no fewer than 12 credits of this class, with the last 3 credits taken during the student's last semester in which he/she is planning to defense his/her dissertation.

ENGL 02116: Readings in Non-Western Literature 3 s.h.
Designed to give the student some knowledge of and sensitivity toward literature from around the world (exclusive of Europe and the United States), the course covers a limited number of ancient and modern works from Asia, the Near East, Africa, and Latin America. It emphasizes those perceptions, beliefs, and values that are different from ours.

ENGL 02605: Graduate Studies In Adolescent Literature 3 s.h.
This course will introduce students to a range of literature written for, read by, and/or taught to adolescents. Students will analyze the literary works from a variety of theoretical perspectives (including ecological, feminist, formalist, Marxist, post colonial, psychoanalytical and queer) to think about the cultural construction of adolescence and adolescents' relationship to power. This course may not be offered annually.

ENGL 02617: Teaching Shakespeare 3 s.h.
This course begins by examining representative plays by Shakespeare by using the approaches of "Understanding by Design." Next, it considers how to teach the plays with those approaches, especially "essential questions" and "backward design." This course may not be offered annually.

ENGL 02638: Teaching World Literature 3 s.h.
This course will mix theory and non-Western literature in order to provide the students with a critical vocabulary they can then employ in their own pedagogy. The course will explore a number of questions about nation, individual, community, time, space, language, and other topics through poetry, novels, drama, and short stories from Africa, Asia, and South America.

ENGL 05301: American English Grammar 3 s.h.
This course emphasizes traditional grammar and seeks to give the student a practical understanding of the structure of contemporary American English grammar. Procedures include lecture, class discussion, and the working out of grammatical problems, including sentence diagramming.

ENGL 05501: Teaching American English Grammar 3 s.h.
Teaching American English Grammar provides an introduction to the history of the English language, including a short history of grammar instruction; a review of traditional grammar, along with an overview of other grammatical approaches to English; and the opportunity to explore strategies of teaching grammar to both native and non-native speakers of English, with attention to how grammatical choices affect rhetorical style and effectiveness.

AFRI 16540: Special Topics In Foreign Languages And Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

ARAB 12540: Special Topics In Foreign Languages And Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

CHIN 07540: Special Topics In Foreign Languages And Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

FREN 02540: Special Topics In Foreign Languages And Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

GERM 03540: Special Topics In Foreign Languages And Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

ITAL 04540: Special Topics In Foreign Languages And Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

LAT 09540: Special Topics In Foreign Languages And Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

RUSS 06540: Special Topics In Foreign Languages And Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

SPAN 05540: Special Topics in Foreign Languages and Literatures 3 s.h.
This course brings new perspectives and themes to the established Foreign Languages and Literatures curriculum. Eash semester the instruction of this course rotates among faculty memebers who select topics according to their current scholarly interests. In this way, the course expands options for upper-level electives.

GEOG 06501: INDEP STUDY GEOG 3 s.h.

GEOG 06553: Workshop In Geography 1 to 3 s.h.
This course is designed for in-service teachers who wish to further develop their competencies in new teaching techniques and technologies in geography, including computer-assisted instruction and computer cartography. Contemporary geographic topics will be explored within a regional context of each major world region. Students will actively participate in applying new concepts, current data, and innovative techniques in geography by designing and presenting sample lessons at their grade level. (Summer only)

GEOG 16100: Earth, People, And The Environment 3 s.h.
This course provides a broad survey of the geographic approach to knowledge about the world and the field of geography. The course introduces the natural order of the physical environment, human modification of environments, organization of society, and regional studies. The course places particular emphasis on contemporary environmental problems and the role of geography in helping to understand and address local, regional, and global issues.

GEOG 16110: Cultural Geography 3 s.h.
This course focuses upon the varied and changing cultural environments of the world. Through a synthesis of data from many disciplines (i.e., anthropology, ecology, earth sciences, history, etc.), major cultural differences and areal patterns are identified and analyzed.

GEOG 16140: World Regional Geography 3 s.h.
A survey of the entire world that uses the regional approach to geographical analysis, this course provides students with a basic foundation of geographic knowledge and concepts applicable to the contemporary world. It stresses resource distribution, environmental characteristics, population problems, food and water supplies, cultural variations and developmental strategies.

GEOG 16160: Intro To Mapping And Geographic Information Sciences 3 s.h.
This course provides the student with the conceptual tools required for intelligent and critical use interpretation and analysis of maps. In addition, the course furnishes the student with an introduction to and overview of the mapping sciences. Students learn the concepts, methods, and techniques common to the several branches of the mapping sciences and are introduced to cartography, satellite remote sensing, computer-assisted cartography, and geographical information systems. Because of its increasing importance, special emphasis is placed on geographical information systems.

GEOG 16260: Fundamentals of Geographic Information Systems (GIS) 4 s.h.
Prerequisites: GEOG 16160
Fundamentals of Geographic Information Systems introduces students to the concepts and applications associated with creating, maintaining, analyzing, displaying, and interpreting geospatial data. Through the completion of activities and assignments, students gain experience with the fundamental tools for geospatial analysis, coupled with the knowledge of how best to apply them to real-world issues in the natural and human landscapes.

GEOG 16261: Cartography 3 s.h.
Prerequisite: GEOG 16160
This course studies the elements of cartography with emphasis on the map as a basic form of communication. It explores contemporary design concepts and various graphic techniques. Students create cartographic compositions using the latest in geographical information system and cartographic software using the facilities of the department's computer teaching laboratory.

GEOG 16307: Geography Of Transportation 3 s.h.
This course examines the major environmental features of Asia, stressing problems of population pressure and land utilization. The course studies individual culture realms and selected countries intensively. This course may not be offered annually.

GEOG 16334: The Geography of Natural Disasters 3 s.h.
There are thousands of examples in which the forces of nature have suddenly claimed human lives and destroyed manmade constructions on a large scale. This course will introduce the nature, causes, risks, effects, and prediction of natural disasters including earthquakes, volcanic eruptions, landslides, subsidence, global climate change, severe weather, coastal erosion, floods, mass extinctions, and meteorite impacts. It will cover geologic principles and case histories of natural disasters and human responses (societal impact, mitigation strategies, and public policy).

GEOG 16350: Quantitative Methods 3 s.h.
This course examines the application of inferential statistical methods to geographic research. It also offers an introduction to techniques designed especially for analysis of spatial patterns and distribution. This course may not be offered annually.

GEOG 16360: Applications of Geographic Information Systems 3 s.h.
Prerequisite(s): GEOG 16260
Applications of Geographic Information Systems builds upon the foundational concepts introduced in pre-requisite courses to examine the concepts and techniques of advanced geospatial analysis. Building upon series of techniques, coupled with real-world applications, students employ geospatial data and methods to complile, analyze, visualize, and interpret results, as well as examine critical issues related to data management and maintenance. The course is intended to prepare the student for both the professional GIS workforce and advanced research with GIS.

GEOG 16361: Geovisualization 3 s.h.
Prerequisite: GEOG 16160
This course explores geovisualization and related GIS and cartographic techniques. Geovisualization communicates geospatial information in ways that allow for data exploration and decision-making processes. Techniques covered include temporal modeling of processes over time and 3D fly-thru of virtual terrain. The techniques are applied to real-world problem solving in fields such as environmental modeling, planning, archeology, crime mapping and natural resource management.

GEOG 16370: Drones, Planes, and Satellites 3 s.h.
Prerequisite: GEOG 16160
This course introduces students to techniques of spatial analysis using satellite imagery and aerial photography. It intersperses practical exercises in photo interpretation and digital image processing with demonstrations that include a wide range of photographic and non-photographic source material, including infra-red thermal and micro-wave images, digital orthographic photos as well as LANDSAT and other satellite platforms.

GEOG 16391: Directed Geographic Field Experiences 3 s.h.
This course offers an introduction to geographic field research methods, class field trips to places chosen by instructor and students. Students will complete a field research project taken on a topic chosen in consultation with the instructor. This course may not be offered annually.

GEOG 16553: Workshop In Geography 1 to 3 s.h.
This course is designed for in-service teachers who wish to further develop their competencies in new teaching techniques and technologies in geography, including computer-assisted instruction and computer cartography. Contemporary geographic topics will be explored within a regional context of each major world region. Students will actively participate in applying new concepts, current data, and innovative techniques in geography by designing and presenting sample lessons at their grade level. (Summer only)

GEOG 16565: Geographic Information Systems (Gis) Topics And Applications 3 s.h.
Geographic Information Systems (GIS) Topics and Applications provides an extended exploration into Geospatial science and analysis at the graduate level. Students develop advanced GIS skills through a project-based approach culminating in a final project and presentation. The course deepens the understanding of raster and vector data structures as well as the ability to work with computational algorithms used in GIS analysis. Students learn through lectures, demonstrations, computer laboratory sessions and a project paper and presentation.

GEOG 16591: INDEP STUDY GEOG 3 s.h.

GEOG 16661: Geovisualization 3 s.h.
Prerequisite: GEOG 31660
This course explores geographic visualization (Geovisualization) and related cartographic and graphic design techniques. The course content is primarily focused on GIS-based spatial planning, design, analysis, and 2D/3D visualization techniques. Students are exposed to the basic knowledge of using GIS and Geovisualization in site analysis, site design, public participatory GIS (PPGIS), and design charrettes. The concepts of qualitative Geovisualization and other emerging tools and techniques are also introduced.

GEOG 31660: Fundamentals of Geographic Information Systems 4 s.h.
This course introduces students to the concepts and applications associated with creating, maintaining, analyzing, displaying, and interpreting geospatial data. Through the completion of activities and assignments, students gain experience with the fundamental tools for geospatial analysis, coupled with the knowledge of how best to apply them to real-world issues in the natural and human landscapes. This course is suitable for planners, geographers, and relevant professionals.

PLAN 31383: Metropolitan/Regional Planning 3 s.h.
Prerequisite: PLAN 31280
This course studies the philosophy, history, techniques, and problems of metropolitan and regional planning. Although it focuses on large scale-planning in the United States, the course makes some comparative analysis of planning in other countries. It emphasizes geographic techniques in regional analysis, as well as the roles of federal, state, and local agencies in planning. Students learn and use simulation and gaming techniques in the preparation of regional plans. This course may not be offered annually.

PLAN 31386: Land Use And Conservation 3 s.h.
Prerequisite: PLAN 31280
This course examines people's changing perceptions of the economic use potential of land focusing on how land is a combination of physical, economic, political and cultural interactions. The course explores the basics of land use law, property rights, land use conflicts and the various avenues for land conservation and open space preservation.

PLAN 31580: Introduction to Planning: Past, Present, and Future 3 s.h.
This course focuses on the comprehension, representation, and use of ideas and information in the planning field, including appropriate perspectives from history, social science, and the design professions. Course content offers the primary reasons planning is undertaken by communities, cities, regions, and nations, and the impact planning is expected to have. Specific topics include history of human settlements, planning history, planning theory, global dimensions of planning, and planning processes to influence the future.

PLAN 31587: Graduate Seminar in Food Systems Planning 3 s.h.
This graduate level course explores the food supply chains within the US that brings food from the field to the table and describes the ways that planners are utilizing traditional planning tools to build more sustainable and resilient regionally based food systems. Students will compare both conventional and alternatives supply chains identifying the benefits and limitations of both, as well as examine the policy and programmatic initiatives taken by planners to maximize these benefits and minimize these limitations. Additional topics include land conservation, food access, urban agriculture and economic development.

PLAN 31589: Environment and Sustainability Planning 3 s.h.
Prerequisite: PLAN 31580
This course offers a broad understanding of sustainability and environmental factors in planning from a local to global perspective. It explores environmental, economic, and social/political factors that contribute to sustainable communities, and investigates the role of planning processes in the creation of sustainable futures. The course examines planning's implications on individual and community health within the built environment. Course materials also discusses key issues in equity, diversity, and social justice that emphasize planners' role in expanding choice and opportunity for all.

PLAN 31590: Research Methods in Planning 3 s.h.
This course introduces quantitative and qualitative methods and modeling tools, and their applications to planning research and planning practice, including forecasting, policy analysis, and design of projects and plans. Students learn how to pose clear and researchable questions relevant to urban and regional planning, collect and process data, analyze data using quantitative or qualitative research tools, and present results using clear, accurate, and compelling text, graphics, and maps to a variety of audiences, including other planners, citizens, and public or elected officials. They also learn tools for assembling and analyzing ideas and information from prior practice and scholarship.

PLAN 31593: Planning Communication 3 s.h.
The aim of this course is to prepare students for planning and relevant professions by ensuring that they are aware of and trained in proper professional communications standards. Students recognize the need for appropriate outreach strategies for communicating with the public and gain knowledge to develop and utilize tools for effective in-person or virtual stakeholder engagement. In addition to basic written, oral, and graphical communication skills, this course introduces skills related to leadership, team building, facilitation, mediation, community motivation development, and strategic decision making.

PLAN 31685: Planning Practice, Law, and Ethics 3 s.h.
Prerequisite: PLAN 31580
This three-module course prepares students for the professional planning field by introducing topics related to planning practice, planning law, and planning ethics. The first module is focused on the roles of officials, stakeholders, and community members in planned change. It also introduces economic, infrastructure, social, and cultural factors to urban and regional growth and change. The second module provides legal and institutional contexts within which planning occurs. The final module presents key issues of planning ethics and related questions of the ethics of public decision-making, research, and client representation.

PLAN 31686: Community Planning and Site Design 3 s.h.
Prerequisite(s): PLAN 31580 and PLAN 31589
This course focuses on the design, arrangement, appearance, and functionality of building sites, neighborhoods, towns and cities, as well as the shaping and uses of safe public spaces. It explores sustainable design principles, techniques, and practices related to physical or spatial planning and urban design. Students explore design elements at both macro and micro scales that make up public and private realms of the built environment and learn to incorporate those elements in workable urban design projects and community plans.

PLAN 31695: PLANNING STUDIO 6 s.h.
Prerequisite(s): PLAN 31580 and PLAN 31590 and PLAN 31593 and GEOG 31660 and PLAN 31589 and PLAN 31685 and PLAN 31686
Graduate planning students produce their capstone projects in this studio. Under direct supervision of planning faculty, students undertake a planning project in cooperation with a local, regional, national, or international client. Students apply their relevant knowledge and skills gained from all required as well as elective courses in this project. They work in small groups focusing on different aspects of planning. Whenever appropriate, students get engaged with community stakeholders and assess their interests. The final product of this studio is a professional-level plan or a policy report.

MBS 00501: Biochemistry and Molecular Biology 3 s.h.
This course will focus on basic and advanced topics in Biochemistry and Molecular Biology. The course is designed to give the students a solid foundation in these subject areas. It is a course for both the basic scientist who seeks general principles about cellular function, and students preparing for health-related careers who wish to apply knowledge of the mechanisms of normal cellular function to the understanding of molecular dysfunction in human diseases. * MEDICAL BIOCHEMISTRY CAN SUBSTITUTE FOR FUNDAMENTALS I. Cross-listed in the MPI program as MPI 00501 as a core course as well.

MBS 00502: Cell Biology 3 s.h.
This course will focus on the biology and physiology of the cell and is organized around the central theme of homeostasis – how the cell meets changing demands while maintaining the internal constancy necessary for all cells and organs to function. It is a course for both the basic scientist who seeks general principles about cellular function, and students preparing for health-related careers who wish to apply knowledge of the mechanisms of normal cellular function to the understanding of cellular dysfunction in human disease. Cross-listed in the MPI program as MPI 00502 as a core course as well.

MBS 00614: Molecular Mechanisms of Aging 2 s.h.
Prerequisites: MBS 00501, MBS 00502, MBS 0050
The major goal of this course is to acquaint second-year Master's students with fundamental information regarding the aging-associated molecular pathways and to update them on the most recent advancements in the studies of molecular mechanisms of aging. The emphasis will be given to the discussion of the most popular aging theories, experimental attempts to improve longevity in animal models, and their critical analysis from the scientific standpoint. During the course, the students will be provided a solid understanding of the most popular subject in translational science that attracts billions of research dollars but is seldom taught as a conceptual course. It is a course for both the basic biomedical scientists who seek to understand the nature of aging and aging-associated processes, and the students preparing for health-related careers who are eager to expand their knowledge on "diseases and conditions associated with growing older, in order to extend the healthy, active years of life" (from the National Institute of Aging Mission Statement).

MBS 00615: Case Studies in Biology & Medicine 3 s.h.
Prerequisites: MBS 00501, MBS 00502, MBS 00503
This course is intended to help the student advance in the learning process. We will analyze topics of biological and medical interest and attempt to recognize and apply thought processes to understanding the biological phenomena or the clinical situation. The goal of this course is to go through case studies of biological and clinical significance and develop an appreciation for the levels of thought that are required to understand the underlying mechanisms and pathways and communicate about the topic under consideration.

MBS 00659: GSBS Maintaining Matriculation 0 to 9 s.h.
A Master of Biomedical Science program student who requires an additional semester to complete a course, especially a RowanSOM course that begins in the fall and ends in the spring, may register for GSBS Maintaining Matriculation during the subsequent semester. This course will carry a variable credit weight of 0-9 credits (5 credits are part-time status; 9 credits are full-time status). The GSBS office will be responsible for certifying that a student is completing a course in progress on a part-time or full-time basis commensurate with the number of credits they are registered for in the previous semester. The student will not be charged tuition or a fee for continuation regardless of the number of credits for which they are registered. A student can only register for GSBS Maintaining Matriculation for one (1) semester. This course is not graded.

MPI 00504: Topics in Molecular Pathology & Immunology 4 s.h.
This course provides the student with a factual understanding of key host/pathogen elements related to the development of human disease, in an introductory manner. The course will cover major human bacterial, viral and fungal pathogens and their disease-causing mechanisms. In addition, the human immune system is presented in the context of host-defense against infectious and malignant disease. Mechanisms of tumorigenesis and metastasis are explored, as are the strategies and approaches used to develop new therapeutic compounds. Finally, two shorter elements describe the creation, validation and standardization of new molecular diagnostic tools, and the critical evaluation of experimental data. Upon completion of the course, students will have gained a broad overview of the theoretic and practical aspects of the subjects that underlie the laboratory courses they will take in the future.

ATR 00105: Introduction to Athletic Training 3 s.h.
This course is designed as an initial experience for students considering a career in athletic training. Students will be introduced to various domains, competencies, and proficiencies related to athletic training. An in-depth look at the field of athletic training and the requirements of the athletic training program will be discussed. An observational field experience is required.

ATR 00218: Prevention Care Orthopedic Injuries 3 s.h.
Prerequisite(s): (HES 00241 or PHED 35241) or (HES 00242 or PHED 35242) or (BIOL 10210 or BIOL 10212)
An examination of current practices and procedures in the basic pathology, prevention and care of athletic injuries. The laboratory experience exposes students to wound care, padding, and the art and science of athletic injury taping. An observational clinical field experience will be required.

ATR 00219: Pathology and Evaluation of Orthopedic Injuries I 3 s.h.
Prerequisite(s): (ATR 00218 or PHED 35218)Corequisite(s): (ATR 00238 or PHED 35238)
This course provides an examinationg of the etiology, epidemiology, pathology, and assessment of injuries and illnesses to the lower extremity. Structural, functional, and surface anatomy will be reviewed. In addition to didactic classroom time, students are also instructed, given time to practice and evaluated on pertinent athletic training psychomotor competencies and clinical proficiencies within a practical laboratory experience. There is an observational field experience associated with this class.

ATR 00220: Pathology and Evaluation of Orthopedic Injuries II 3 s.h.
Prerequisite(s): (ATR 00219 or PHED 35219) Corequsite: ATR 00239
This course provides an examination of the etiology, epidemiology, pathology and assessment of injuries and illnesses to the upper extremity, head, axial skeleton, chest, and thorax. Structural, functional and surface anatomy will be reviewed. In addition to didactic classroom time, students are also instructed, given time to practice and evaluated on pertinent athletic training psychomotor competencies and clinical proficiencies within a practical laboratory experience. There is an observational field experience associated with this class.

ATR 00238: Pathology and Evaluation of Orthopedic Injuries I (Lab) 2 s.h.
Prerequisite(s): (ATR 00218 or PHED 35218) Corequisite(s): ATR 00219
This laboratory course is designed to teach the psychomotor and clinical proficiency skills necessary to perform a competent evaluation of the lower extremity and low back region. It must be taken and successfully completed in conjunction with Pathology and Evaluation of Orthopedic Injuries I before a student may continue matriculating through the Athletic Training Education Program.

ATR 00239: Pathology and Evaluation of Orthopedic Injuries II (Lab) 2 s.h.
Prerequisite(s): ATR 00219 and ATR 00238 Corequisite(s): ATR 00220
This laboratory course is designed to teach the psychomotor and clinical proficiency skills necessary to perform a competent evaluation of the upper extremity, head, cervical and thoracic regions. It must be taken and successfully completed in conjunction with Pathology and Evaluation of Orthopedic Injuries II before a student may continue matriculating through the Athletic Training Education Program.

ATR 00334: Advanced Emergency Care 3 s.h.
This is a sophomore level course designed primarily for athletic training majors and other allied health professionals. Students are trained in CPR for the professional rescuer as well as other advanced emergency skills. An additional observation experience in a local emergency room is required. There also is an optional lifeguarding component available in this class.

ATR 00338: Clinical Techniques in Athletic Training 2 s.h.
Prerequisite(s): (ATR 00220 or PHED 35220) Corequisite(s): ATR 00358
This course, designed for first semester juniors, will review and evaluate psychomotor competencies and clinical proficiencies previously discussed in pre-professional course work. Students meet once per week in the Athletic Training Laboratory to practice and be evaluated on their psychomotor and clinical proficiency skills. Opportunities are also provided to discuss topics pertinent to the student's clinical residency assignment.

ATR 00339: Clinical Techniques in Athletic Training II 2 s.h.
Prerequisite(s): (ATR 00338 or PHED 35338) Corequisite(s): ATR 00359
This course, designed for second semester juniors, will review and evaluate psychomotor competencies and clinical proficiencies previously discussed in Therapeutic Modalities and topics relevant to previous course work. Students meet once per week in the Athletic Training Laboratory to practice and be evaluated on their psychomotor and clinical proficiency skills. Opportunities are also provided to discuss topics pertinent to the student's clinical residency assignment.

ATR 00340: Clinical Techniques in Athletic Training III 2 s.h.
Prerequisite(s): (ATR 00339 or PHED 35339)Corerequisite(s): ATR 00360
This course, designed for first semester seniors, will review and evaluate psychomotor competencies and clinical proficiencies previously discussed in Therapeutic Excercises and topics relevant to previous course work. Students meet once per week in the Athletic Training Laboratory to practice and be evaluated on their psychomotor and clinical proficiency skills. Opportunities are also provided to discuss topics pertinent to the student's clinical residency assignment.

ATR 00341: Clinical Techniques in Athletic Training IV 2 s.h.
Prerequisite(s): (ATR 00340 or PHED 35340) Corequsite(s): ATR 00361
This course, designed for second semester seniors, will review and evaluate clinical proficiencies previously discussed in General Medical Conditions and Pharmacology and related topics relevant to previous course work. Students meet once per week in the Athletic Training Laboratory to practice and discuss topics pertinent to their clinical assignment. The clinical assignment enables students to develop and assimilate patient care skills under the direct supervision of a certified athletic trainer and/or approved clinical instructor within the athletic training room, exposure to intercollegiate athletics and/or at approved affiliated sites.

ATR 00347: Applied Biomechanics 3 s.h.
Prerequisite(s): (ATR 00219 or PHED 35219) and (ATR 00220 or PHED 35220) or (HES 00243 and HES 00344)
This course is designed to acquaint students with the fundamental principles involved with biomechanics and human movements. This course will discuss the kinetic and kinematics concepts and how they are applied to balance, posture, locomotion and functional activity.

ATR 00358: Residency in Athletic Training I 3 s.h.
Prerequisite(s): (ATR 00220 or PHED 35220) and acceptance in the Professional Phase of the Athletic Training Education program
Corequisite(s): ATR 00338
This clinical education course, designed for first semester juniors, will review and evaluate, within a clinical assignment, those clinical proficiencies discussed in previous and concurrent course work using a learning-over-time model. The clinical assignment enables students to develop and assimilate patient care skills under the direct supervision of a certified athletic trainer and/or approved clinical instructor within the athletic training room, exposure to intercollegiate athletics and/or at approved affiliated sites. During this course, the student will be formally evaluated by an Approved Clinical Instructor only. This course must be takend and successfully completed in conjunction with ATR 00338 Clinical Techniques in Athletic Training I before a student may continue to matriculate through the Athletic Training Education Program.

ATR 00359: Residency in Athletic Training II 3 s.h.
Prerequisite(s): (ATR 00338 or PHED 35338) and (ATR 00358 or PHED 35358) Corequisite(s): ATR 00339
This clinical education course, designed for second semester juniors, will review and evaluate, within a clinical setting, those clinical proficiencies discussed in previous and concurrent course work using a learning-over-time model. The clinical assignment enables students to develop and assimilate patient care skills under the direct supervision of a certified athletic trainer and/or approved clinical instructor within the athletic training room, exposure to intercollegiate athletics and/or at approved affiliated sites. During this course, the student will be formally evaluated by an Approved Clinical Instructor only. This course must be taken and successfully completed in conjuction with ATR 00339 Clinical Techniques in Athletic Training II before a student may continue matriculating through the Athletic Training Education Program.

ATR 00360: Residency in Athletic Training III 3 s.h.
Prerequisite(s): (ATR 00339 or PHED 35339) and (ATR 00359 or PHED 35359) Corequisite(s): ATR 00340
This clinical education course, designed for first semester seniors, will review and evaluate, within a clinical setting, those clinical proficiencies discussed in previous and concurrent course work using a learning-over-time model. The clinical assignment enables students to develop and assimilate patient care skills under the direct supervision of a certified athletic trainer and/or approved clinical instructor within the athletic training room, exposure to intercollegiate athletics and/or at approved affiliated sites. During this course, the student will be formally evaluated by an Approved Clinical Instructor only. This course must be taken and successfully completed in conjuction with ATR 00340 Clinical Techniques in Athletic Training III before a student may continue matriculating through the Athletic Training Education Program.

ATR 00361: Residency in Athletic Training IV 3 s.h.
Prerequisite(s): (ATR 00340 or PHED 35340) and (ATR 00360 or PHED 35360) Corequisite(s): ATR 00341
This clinical education course, designed for second semester seniors, will review and evaluate, within a clinical setting, those clinical proficiencies discussed in previous and concurrent course work using a learning-over-time model. The clinical assignment enables students to develop and assimilate patient care skills under the direct supervision of a certified athletic trainer and/or approved clinical instructor within the athletic training room, exposure to intercollegiate athletics and/or at approved affiliated sites. During this course, the student will be formally evaluated by an Approved Clinical Instructor only. This course must be taken and successfully completed in conjuction with ATR 00341 Clinical Techniques in Athletic Training III before a student may continue matriculating through the Athletic Training Education Program.

ATR 00405: Organization & Administration in Athletic Training 3 s.h.
Prerequisite(s): (ATR 00339 or PHED 35339)
This lecture/laboratory course is designed to meet the entry level competencies for the athletic training student in the area of organization and administration of athletic training. It covers liability, budgeting, athletic training facility design, insurance, administration of medical record keeping systems, data tabulation and interpretation, emergency transportation systems, athletic training facility management, impact of state and national governing body regulations, athletic injury insurance administration and communication, conflict resolution and mediation.
The senior level course is designed to meet educational competencies in pharmacology and general medicine for the undergraduate athletic training student. This course will focus on issues in pharmacology and general medicine pertinent to the allied health profession of athletic training. Issues such as the drug approval process, side effects of medications, general medical evaluation will be explored during this course,. There is a general medical clinical field experience with the athletic raining programs medical director associated with this course.

ATR 00447: Therapeutic Modalities in Athletic Training - Laboratory Experiences 2 s.h.
Prerequisite(s): (ATR 00220 or PHED 35220) Corequisite(s): ATR 00475
This laboratory course is designed to teach teh psychomotor and clinical proficiency skills necessary to develop psychomotor skills relevant to the use of Therapeutic Modalities. This laboratory course must be taken and successfully completed in conjuction with Therapeutic Modalities in Athletic Training before a student may continue matriculating through the Athletic Training Education Program.

ATR 00475: Therapeutic Modalities for Athletic Training 3 s.h.
Prerequisite(s): (ATR 00220 or PHED 35220) and (ATR 00329 or PHED 35239)Corequisite(s): ATR 00447
This course focuses on the cognitive, affective and psychomotor competencies involved in developing appropriate therapeutic modality programs for the injured person. This course uses current research to discuss the theory and clinical applications of all potential modalities used in the athletic training room. This course implements a problem-solving approach for the return of functional integrity to the injured person through the use of therapeutic modalities. A laboratory experience is part of this class.

ATR 00476: Therapeutic Exercises in Athletic Training - Laboratory Experiences 2 s.h.
Prerequisite(s): (ATR 00475 or PHED 35475) Corequisite(s): ATR 00478
This laboratory course is designed to teach the psychomotor and lcinical proficiency skills necessary to develop psychomotor skills relevant to the use of Therapeutic Excercies. This laboratory course must be taken and successfully copleted in conjunction with Terapeutic Excercies in Athletic Training before a student may continue matriculating through the athletic Training Education Program.

ATR 00477: Psychosocial Aspects of Physical Activity 3 s.h.
Prerequsite(s): PSY 01107 and (ATR 00479 or PHED 35479)
This course, designed for seniors in Athletic Training, addresses several CAATE proficiencies related to the psychosocial aspect of physical activity and injury. Topics include but are not limited to theories related to the psychological and emotional aspects of trauma and forced inactivity, the use of motivational activities towards rehabilitation, basic principles of mental preparation, relaxation, and visualization, as well as theories and techniques of interpersonal and cross-cultural communication among athletic trainers, their patients, and others involved in the health care of the patient.

ATR 00478: Therapeutic Exercises in Athletic Training 3 s.h.
Prerequsite(s): (ATR 00475 or PHED 35475) and (ATR 00447 or PHED 35447) Corequisite(s): ATR 00476
This course covers the cognitive, affective and psychomotor competencies involved in developing appropriate rehabilitation exercise protocols for the injured person. This course uses current research to discuss the physiological and biomechanical concepts involved in the clinical practice of rehabilitation. This course implements a holistic and problem-solving approach for the return of functional integrity to the injured person. A laboratory experience is part of this class.

ATR 00479: Pharmacology and General Medicine in Athletic Training 3 s.h.
Prerequisite(s): (ATR 00478 or PHED 35478)
This senior level course is designed to meet educational competencies in pharmacology and general medication for the undergraduate athletic training student. The course will focus on issues in pharmacology and general medicine pertinent to the allied health profession of athletic training. Issues such as the drug approval process, side effects of medications, general medical evaluation will be explored during this course. There is a general medical clinical field experience with the athletic training program's medical director associated with this course.

ATR 00505: Research Methods in Athletic Training 3 s.h.
This graduate level course familiarizes students with research concepts and their application in developing quality-driven research within the Athletic Training Profession. The emphasis of this course is for the student to learn how to assess the literature, develop a relevant research question, be familiar with different methodological and basic statistical designs, interpretations of results, writing a discussion and publication procedures.

ATR 00510: Advanced Topics in Clinical Evaluation through Cadaver Anatomy 3 s.h.
This graduate level course offers students the opportunity to dissect the upper and lower extremity of the human body. In addition students will dissect the head, next and truck. Students will identify various structures on the cadaver that are related to musculoskeletal pathology and evaluation. A pre-lab will be done related to the pathology associated with each dissection. A lab fee will be required for participation in this course.

ATR 00520: Advanced Rehabilitation Techniques: An Evidence-Based Approach to Rehabilitation 3 s.h.

This is a graduate level course that familiarizes students with advanced rehabilitation techniques. This course will take an evidence-based approach to the treatment and management of musculoskeletal pathologies. The student will develop clinical and practical skills in the rehabilitation of the trunk, head, neck, extremities and spine. An evidence based approach will allow the student to utilize the current literature in the rehabilitation of patients from an injured state to full participation in sport and activities of daily living.

ATR 00540: Fellowship in Athletic Training I 5 s.h.

Prerequisites: ATR 00341 and ATR 00361

This course will review and evaluate, within a clinical experience setting, those clinical integrated proficiencies discussed in all previous course work within the Athletic Training Program. Students will be assigned to a Preceptor in order to develop and assimilate patient healthcare skills under the direct supervision of an Athletic Trainer or other Allied Health Care Provider practicing in their respective profession. Students will gain hands-on patient care experience within Athletic Training Clinics, Intercollegiate Athletics and/or at Approved Affiliated Sites. During this course, the student will be formally evaluated by an assigned Preceptor throughout the semester on both clinical skills and professional dispositions.

ATR 00541: Fellowship in Athletic Training II 5 s.h.

Prerequisite: ATR 00540

This course is the culmination of all clinical integrated proficiencies throughout the Athletic Training Program. Students will be assigned to a Preceptor in order to develop and assimilate patient healthcare skills under the direct supervision of an Athletic Trainer or Allied Health Care Provider practicing in their respective profession. Students will gain hands-on patient care experience within Athletic Training Clinics, Intercollegiate Athletics and/or at Approved Affiliated Sites. During this course, the student will be formally evaluated by an assigned Preceptor throughout the semester on both clinical skills and professional dispositions.

ATR 00560: Thesis I 4 s.h.

Prerequisite: ATR 00361

This course will provide the student with the opportunity to produce quality driven research under the direction of their Master's Thesis advisor. A research topic will be chosen through the collaboration of the student and the student's advisor. The student, under the guidance of their advisor, will be expected to develop a research question, literature review, data collection and analysis, and interpretation of results. The student will be expected to defend and publish their results.

ATR 00561: Thesis II 4 s.h.

Prerequisite: ATR 00560

This course is a continuation of ATR 00560 Thesis I. The student will prepare their results for defense in front of their thesis committee. The final product will be in manuscript format that is ready for publication.

HES 00100: Teaching Concepts of Driver Education 3 s.h.

Prerequisite(s): (ATR 00235 or PHED 35235) and (HPE 00325 or HLTH 37325) or (ATR 00235 or PHED 35235) and (HPE 00326 or HLTH 37326)

The course is designed for individuals seeking New Jersey Driver Education teacher endorsement. The content includes learning to teach motor vehicle operation, driving environment and the student development of teaching techniques emphasizing safety, risk perception, and decision-making prcesses applied in a vehicle. Learning how to instruct others in performing behind-the-wheel driving will be scheduled outside of class time.

HES 00345: Exercise Physiology (with lab) 4 s.h.

Prerequisite(s): (HES 00241 or PHED 35241) and (HES 00242 or PHED 35242) or (BIOL 10210 and BIOL 10212), all with a grade of C- or higher.

A course in applied anatomy and physiology, this course studies the interrelationship of exercise and physiology. This course also covers the functions of the human body under the stress of physical activity.

HES 00401: Exercise Prescription 3 s.h.

Prerequisite(s): (BIOL 10210 and BIOL 10212) or (HES 00344 or PHED 35344 or HES 00345 or PHED 35345) or (HES 00241 or PHED 35241 and HES 00242 or PHED 35242) and (ATR 00334 or PHED 35344 or HES 00345 or PHED 35345), all with grade C- or higher.

This course provides students with the knowledge and practical experience in exercise testing and prescription. The information enables students to establish scientific foundations of exercise testing and prescription, to identify the risk factors for disease development and to prescribe an exercise program based on exercise test results and personal limitations. Practical experience is provided for testing subjects in the laboratory.

HES 00512: Understanding and Applying the Professional Literature in HES 3 s.h.
This course provides an overview of the research methods used in the health and exercise science field with an emphasis on reading, interpreting and applying the research findings in practical settings. The course will include an overview of both quantitative and qualitative research methods, as well as the steps of the research process. Students will learn how to perform a literature review, conduct a program evaluation and other practical applications of the research process.

HES 00515: Driver Education Concepts and Theory 3 s.h.
The course is designed for currently certified teachers seeking New Jersey Driver Education teacher endorsement. The content includes learning to teach motor vehicle operation, driving environment and the student development of teaching techniques emphasizing safety, risk perception, and decision-making processes applied in a vehicle. Learning how to instruct others in performing behind-the-wheel driving will be scheduled outside of class time.

HES 00520: Exercise and Epidemiology 3 s.h.
This course examines the etiology and pathophysiology of certain diseases and specifically includes the role of exercise as a preventative measure in the onset of these diseases. Disease processes investigated are coronary artery and coronary heart disease, hypertension, Type 2 diabetes mellitus, obesity, osteoporosis, selected cancers and low back pain syndrome.

HES 00525: Curriculum Strategies In Substance Awareness Education 3 s.h.
Prerequisite: PSY 05502
This course provides students with the knowledge, resources and skills needed to plan and organize curricula in chemical health education which meet the needs of students in school and non-school based settings. Students evaluate the nature and scope of the substance abuse problem in order to make informed decisions in the development, organization, implementation and evaluation of substance abuse programs. Special attention is given to program and policy development, instructional strategies, program evaluation, staff development, and the dynamics of school culture.

HES 00550: Capstone Project 3 s.h.
Prerequisite: This course must be taken in the last semester of the program.
In this independent study course, students will work individually with a faculty advisor to complete a major project relevant to health promotion. Projects may include the development of curriculum, program development, program evaluation, a research thesis, or other project with the approval of the Wellness and Lifestyle Management faculty coordinator.

HES 00555: Individual Study in Health and Physical Education 3 to 6 s.h.
This course is designed to give the student the opportunity to pursue an in-depth inquiry into a selected topic in health and physical education on an individualized basis. It provides flexibility for the student in increasing specialization in a selected area of interest. Offered in summer session only for matriculated students with a minimum of 25 S.H. completed. Students must submit a written proposal for individual study to the program advisor by March 15 prior to the summer session desired.

HES 00590: Integrating Wellness Into School Settings 3 s.h.
This course addresses teh growing demand for wellness initiatives for students, their families and staff in P through 12 school settings. Teachers, school nurses, school administrators and community helath promotion professionals will understand how to build wellness programming into the school community.

HLT 00103: Health and Wellness 3 s.h.
This course stresses the concepts of lifetime health and physical fitness. It examines the positive effects of exercise upon the heart and blood vessels, obesity and proper diet, body mechanics, and how the body handles stress. The course also examines the negative effects of disease, including socially transmitted diseases, substance abuse including narcotics, alcohol and tobacco, and other contemporary health-related problems. Students learn to analyze their strengths and limitations while planning a personal wellness profile which best fits their needs and interest.

HLTH 37512: Understanding And Applying The Professional Literature In Hes 3 s.h.
This course provides an overview of the research methods used in the health and exercise science field with an emphasis on reading, interpreting and applying the research findings in practical settings. The course will include an overview of both quantitative and qualitative research methods, as well as the steps of the research process. Students will learn how to perform a literature review, conduct a program evaluation and other practical applications of the research process.

HLTH 37515: Driver Education Concepts And Theory 3 s.h.
The course is designed for currently certified teachers seeking New Jersey Driver Education teacher endorsement. The content includes learning to teach motor vehicle operation, driving environment and the student development of teaching techniques emphasizing safety, risk perception, and decision-making processes applied in a vehicle. Learning how to instruct others in performing behind-the-wheel driving will be scheduled outside of class time.

HLTH 37518: Nutrition And Epidemiology 3 s.h.
This course is designed to explore nutrition¿s role in the prevention and rehabilitation of a variety of diseases including: hypertension, hypercholestolemia, cardiovascular disease, diabetes, obesity, arthritis, osteoporosis, and cancer. The course will explore the etiology and progression of these diseases and facilitate an understanding of how nutrition may be prescribed for the care of individuals with these diseases. A portion of the course will be devoted to analyzing case studies and guiding the student through the process of nutritional management. Students will be required to perform a review of literature on a specific disease, which they will then present to the class.

HLTH 37520: Exercise And Epidemiology 3 s.h.
This course examines the etiology and pathophysiology of certain diseases and specifically includes the role of exercise as a preventative measure in the onset of these diseases. Disease processes investigated are coronary artery and coronary heart disease, hypertension, Type 2 diabetes mellitus, obesity, osteoporosis, selected cancers and low back pain syndrome.

HLTH 37525: Curriculum Strategies In Substance Awareness Education 3 s.h.
This course provides students with the knowledge, resources and skills needed to plan and organize curricula in chemical health education which meet the needs of students in school and non-school based settings. Students evaluate the nature and scope of the substance abuse problem in order to make informed decisions in the development, organization, implementation and evaluation of substance abuse programs. Special attention is given to program and policy development, instructional strategies, program evaluation, staff development, and the dynamics of school culture.

HLTH 37530: Leadership And Management In Health Promotion Programs 3 s.h.

HLTH 37541: Wellness Coaching And Behavior Change 3 s.h.
This course will provide practitioners with the theoretical background and tools needed to effect positive lifestyle changes in individual clients and population groups. Students will learn to use a wellness coaching delivery model that is based on empirically-supported health behavior theories, such as Social Cognitive Theory and the Transtheoretical Model, to support and motivate lasting behavior change.

HLTH 37542: Program Planning In Health Promotion 3 s.h.
This course provides an overview of leading health program planning theories, including PRECEDE/PROCEED and Intervention Mapping, and the application of these theories in the most common health promotion settings. The program planning process will be discussed in detail and case studies will be used to demonstrate the successful application of this process.

HLTH 37550: Capstone Project 3 s.h.
Prerequisite: This course must be taken in the lastsemester of the program.
In this independent study course, students will work individually with a faculty advisor to complete a major project relevant to health promotion. Projects may include the development of curriculum, program development, program evaluation, a research thesis, or other project with the approval of the Wellness and Lifestyle Management faculty coordinator.

HLTH 37580: Obesity And Diabetes Prevention And Management 3 s.h.
Prerequisites: INAR 06200 and (BIOL 10211 orBIOL 10212)
The purpose of this course is to examine the most common diseases afflicting Americans which have exercise as one of its primary modes for prevention and rehabilitation. The course will thoroughly review the underlying causes for each disease and provide the student with a complete understanding of how exercise can be used in combating these diseases. The primary areas of focus will be cardiovascular, pulmonary and metabolic disorders.

HLTH 37590: Integrating Wellness Into School Settings 3 s.h.
This course addresses teh growing demand for wellness initiatives for students, their families and staff in P through 12 school settings. Teachers, school nurses, school administrators and community helath promotion professionals will understand how to build wellness programming into the school community.

HLTH 37600: Wellness Through The Lifecycle 3 s.h.
This course is an overview of critical health and wellness issues specific to the lifecycle stages from birth to old age. Designed for health promotion practitioners, this course will provide a review of intervention guidelines, resources and program examples of wellness programs to meet the needs of clients and populations in each stage of life.

HLTH 37610: Positive Perceptions, Performance and Wellness 3 s.h.
This course is designed to provide students with knowledge of core concepts from positive psychology and the strengths movement from the perspective of wellness philosophy. Students will explore ways in which positive perceptions can be used to help target populations achieve personal and work life satisfaction. Students will develop competency in applied interventions in workplace, school, clinical and community settings to enhance wellness, productivity and performance. This course addresses work and life satisfaction, important drivers of health, by incorporating the fields of positive psychology and wellness.

HPW 00360: Facility & Program Management in Wellness 3 s.h.
Prerequisite(s): HLTH 00310
This course examines the skills necessary to effectively manage a health promotion facility and program through the study of the health and fitness facility management industry. Topics include training and managing staff, marketing programs and services, customer service, financial management, legal concerns, equipment selection and health and safety issues.

NUT 00200: Basic Nutrition 3 s.h.
Students study human nutrition through the basic knowledge of nutrients and the physiological processes involved in the utilization of food. They also develop an understanding of the ways in which age, health, social, and economic factors and other variables affect nutritional needs and food practices. A computerized dietary analysis may be one of the course requirements.

NUT 00415: Nutrition for Fitness 3 s.h.
Prerequisite(s): (NUT 00200 or INAR 06200) and (BIOL 10210 and BIOL 10212) or (NUT 00200 or INAR 06200) and (HES 00241 or PHED 35241) and (HES 00242 or PHED 35242), all with a grade of C- or higher.
This advanced nutrition course explores the relationship between nutrition, physical fitness, performance and disease prevention. Specific topics include nutrition fraud, supplementation, ergogenic aids, diet planning for athletes and the relationship between nutrition and chronic diseases such as cancer and heart disease. In addition, students continue to develop their skills as nutrition counselors and educators.

NUT 00518: Nutrition and Epidemiology 3 s.h.
This course is designed to explore nutrition's role in the prevention and rehabilitation of a variety of diseases including: hypertension, hypercholesterolemia, cardiovascular disease, diabetes, obesity, arthritis, osteoporosis, and cancer. The course will explore the etiology and progression of these diseases and facilitate an understanding of how nutrition may be prescribed for the care of individuals with these diseases. A portion of the course will be devoted to analyzing case studies and guiding the student through the process of nutritional management. Students will be required to perform a review of literature on a specific disease, which they will then present to the class.

NUT 00520: Supervised Practice in Nutrition and Dietetics 1 6 s.h.
Prerequisite: Must be enrolled in the M.S. Nutrition & Dietetics program and approved to enter the internship phase of the program
This course provides the first half of the required 1200-hour supervised practice experience in partial fulfillment of the requirements for the Registered Dietitian credential. Students will be assigned to an ACEND-approved site and will complete 600 hours of clinical service in a hospital, community and/or school setting, and a food service facility. (Note: upon completion of the 1200-hour experience, the student must successfully complete a 600 hour rotation in a hospital setting and in a community/school setting.)

NUT 00530: Supervised Practice in Nutrition and Dietetics 2 6 s.h.
Prerequisite: NUT 00520 and must be enrolled in the M.S. in Nutrition and Dietetics program.
This course provides the second half of the required 1200-hour supervised practice experience in partial fulfillment of the requirements for the Registered Dietitian credential. Students will be assigned to an ACEND-approved site and will complete 600 house of clinical service in a hospital, community and/or school setting, and a food service facility.) Note: upon completion of the 1200-hour experience, the student must successfully complete a 600-hour rotation in a hospital setting and a community/school setting.)

PHED 35103: Health And Wellness 3 s.h.
This course stresses the concepts of lifetime health and physical fitness. It examines the positive effects of exercise upon the heart and blood vessels, obesity and proper diet, body mechanics, and how the body handles stress. The course also examines the negative effects of disease, including socially transmitted diseases, substance abuse including narcotics, alcohol and tobacco, and other contemporary health-related problems. Students learn to analyze their strengths and limitations while planning a personal wellness profile which best fits their needs and interest.

PHED 35555: Individual Study In Health And Physical Education 3 to 6 s.h.
This course is designed to give the student the opportunity to pursue an in-depth inquiry into a selected topic in health and physical education on an individualized basis. It provides flexibility for the student in increasing specialization in a selected area of interest. Offered in summer session only for matriculated students with a minimum of 25 S.H. completed. Students must submit a written proposal for individual study to the program advisor by March 15 prior to the summer session desired.

PHED 36100: Teaching Concepts Of Driver Education 3 s.h.
The course is designed for individuals seeking New Jersey Driver Education teacher endorsement. The content includes learning to teach motor vehicle operation, driving environment and the student development of teaching techniques emphasizing safety, risk perception, and decision-making prcesses applied in a vehicle. Learning how to instruct others in performing behind-the-wheel driving will be scheduled outside of class time.

WLM 00530: Leadership and Management in Health Promotion Programs 3 s.h.
This course covers a variety of leadership issues necessary for ascending from a clinical position to an administrative or management position in a health profession. The general principle are applicable regardless of whether the goal is to ascend into a formal large institution(e.g., hospital), smaller institutional practice, healthcare corporation, private practice, or educational institution setting; basically any healthcare setting where one may have employees to work with or manage. Students are expected to: Participate actively by sharing their own personal experiences in the healthcare setting, provide analysis or critique of various situations presented, and integrate the material learned to answer a comprehensive question at the end of the semester as if they are the leader in an appropriate organizational setting.

WLM 00541: Wellness Coaching and Behavior Change 3 s.h.
This course will provide practitioners with the theoretical background and tools needed to effect positive lifestyle changes in individual clients and population groups. Students will learn to use a wellness coaching delivery model that is based on empirically-supported health behavior theories, such as Social Cognitive Theory and the Transtheoretical Model, to support and motivate lasting behavior change.

WLM 00542: Program Planning in Health Promotion 3 s.h.
This course provides an overview of leading health program planning theories, including PRECEDE/PROCEED and Intervention Mapping, and the application of these theories in the most common health promotion settings. The program planning process will be discussed in detail and case studies will be used to demonstrate the successful application of this process.

WLM 00575: Seminar in Wellness Management 3 s.h.
Seminar in Wellness Management examines overall management of wellness programs and facilities, with an emphasis on human resource management. In this case, wellness professionals will enhance their knowledge and application of how these elements that can be applied to wellness management settings. Topics include organizational structure, training, and managing staff, financial management, legal and ethical concerns and customer service relations.

WLM 00580: Obesity and Diabetes Prevention and Management 3 s.h.
Prerequisite(s): (NUT 00200 or INAR 06200) and (BIOL 10211 or BIOL 10212)
The purpose of this course is to examine the most common diseases afflicting Americans which have exercise as one of its primary modes for prevention and rehabilitation. The course will thoroughly review the underlying causes for each disease and provide the student with a complete understanding of how exercise can be used in combating these diseases. The primary areas of focus will be cardiovascular, pulmonary and metabolic disorders.

WLM 00600: Wellness Through the Lifecycle 3 s.h.
This course is an overview of critical health and wellness issues specific to the lifecycle stages from birth to old age. Designed for health promotion practitioners, this course will provide a review of intervention guidelines, resources and program examples of wellness programs to meet the needs of clients and populations in each stage of life.

WLM 00610: Positive Perceptions & Performance Wellness 3 s.h.
This course is designed to provide students with knowledge of core concepts from positive psychology and the strengths movement from the perspective of wellness philosophy. Students will explore ways in which positive perceptions can be used to help target populations achieve personal and work life satisfaction. Students will develop competency in applied interventions in workplace, school, clinical and community settings to enhance wellness, productivity and performance. This course addresses work and life satisfaction, important drivers of health, by incorporating the fields of positive psychology and wellness.

WLM 00620: Internship in Wellness and Lifestyle Management 3 s.h.
Prerequisite: Students must have completed 27 semester hours in the program.
The goal of this course is to provide graduate students in Wellness and Lifestyle Management with an opportunity to apply the professional knowledge they have gained in their coursework to a professional setting. In addition to participating in the daily operation of the site, the student will complete a major project which incorporated two or more of the professional skills s/he has learned in the coursework of the program.

HIST 05100: Western Civilization To 1660 3 s.h.
This course covers the evolution of Western Culture from the Stone Age to the end of the Thirty Years War, emphasizing the medieval and early modern periods. Students study the ancient period to learn of its contribution to western culture. The course introduces students to the principles and methodology of history.

HIST 05101: Western Civilization Since 1660 3 s.h.
Prerequisite: Admitted to the Bantivoglio Honors Concentration
This course examines expansion of European culture to other world areas and the consequent changes for European life. It emphasizes the impact of the Industrial Revolution on all aspects of Western culture and introduces students to the principles and methodology of history.

HIST 05120: World History Since 1500 3 s.h.
This course studies the key changes in the patterns of interaction among the major cultures of the earth from the beginnings of European Expansion in the 1500's. The course covers the roots of European Expansion, the response of the Confucian, modern, and non-Eurasian cultures, and the emergence of a non-Western Third World Block since 1914.

HIST 05150: United States To 1865 3 s.h.
This course examines the historical roots of the American democratic traditions, with the emphasis on understanding the political, social and cultural forces developed in the new physical setting of North American and finally welded into a unified nation.

HIST 05151: United States Since 1865 3 s.h.
This course analyzes the principal political, social and cultural factors conditioning the life of the nation since the Civil War. It emphasizes the issues facing modern America by the impact of industrialization and the problems of world leadership.

HIST 05306: Historical Methods-WI 3 s.h.
Prerequisites: COMP 01112
This course offers intensive training in the techniques of historical research and analysis of historical writing. Required of History majors as prerequisite for other upper-level courses.

HIST 05492: Seminar 3 s.h.
Prerequisites: Senior Status and HIST 05306 w/C- or better, at least 9 credits in 300-400 level history courses.
This course concentrates on a research paper of substantial length based upon primary as well as secondary sources. The course also requires critical analysis and discussion of the papers by seminar participants. Required of History majors during their senior year.

HIST 05500: Colloquium In American History 3 s.h.
This course introduces students to in-depth historical analysis of a selected theme in American history, including work with historical sources, critical reading of historians' accounts, intensive research and writing, and class discussion. Proposed topics include American Immigration History, Colonial North America (1500-1775), The American Revolution and Early Republic (1763-1820), Comparative History of the Americas, and Modern American and European Women in Historical Perspective.

HIST 05510: Readings And Research In History I 3 s.h.
This course is on of two courses, along with Readings and Research in History II, designed to strengthen the skills of students in historical research, writing, and analysis. It will expose students to key recent theoretical influences on professional historians, cover key developments in historiography from ancient times through the beginning of the twentieth century, and provide students with brief surveys of the major issues, including both classic and contemporary debates, within regionalized subfields of European and Global history. The course will provide students with opportunities for peer presentations, discussion, and leadership not necessarily available in other graduate courses. This course is required for all students enrolled in the Master's program in History and is a prerequisite for 600 level graduate courses but not for other 500 level graduate courses, including Readings and Research in History II. This course is usually offered once a year.

HIST 05511: Colloquium In American History I 3 s.h.
This course is the first graduate colloquium on the topic of American history that students in this program will take. The course focuses on the in-depth historical analysis of a selected theme in American history, including work with historical sources, critical reading of historians' accounts, intensive research and writing, and class discussion. Proposed topics include American Immigration History, Colonial North America, 1500-1775, the American Revolution and Early Republic, 1775-1820, Comparative History of the Americas, and Modern American and European Women in Historical Perspective.

HIST 05512: Readings And Research In History II 3 s.h.
Prerequisite: Admission to BA/MA or MAprogram in History
This course is one of two courses, along with Readings and Research in History I (HIST 05.510), designed to strengthen the skills of students in historical research, writing, and analysis. It will expose students to key recent theoretical influences on professional historians, cover key developments in historiography during the twentieth century, and provide students with brief surveys of the major issues, including both classic and contemporary debates, within the regionalized subfields of United States history. The course will provide students with opportunities for peer presentations, discussion, and leadership not necessarily available in other graduate courses. This course is required for all students enrolled in the Master's program in History and is a prerequisite for 600 level graduate courses but not for other 500 level graduate courses, including Readings and Research in History I (HIST 05.510). This course is usually offered once a year.

HIST 05514: Colloquium In American History II 3 s.h.
Prerequisites: HIST 05511
This course is the second graduate colloquium on the topic of American history that students in this program will take. Otherwise the course is identical to Colloquium in American History I.

HIST 05516: Colloquium In American History III 3 s.h.
Prerequisites: HIST 05511 and HIST 05114
This course is the third graduate colloquium on the topic of American history that students in this program will take. Otherwise, the course is identical to Colloquium in American History I

HIST 05522: Colloquium In European History I 3 s.h.
This course is the first graduate colloquium on the topic of European history that students in this program will take. The course focuses on in-depth historical analysis of a selected theme in European history that students in this program will take. The course focuses on in-depth historical analysis of a selected theme in European history, including work with historical sources, critical reading of historians' accounts, intensive research and writing, and class discussion. Proposed topics include Ancient Historians, The French Revolution, The Holocaust in Europe, Popular Culture in Early Modern Europe, Social History of Early Modern Europe, 20th Century War and Society, Women in Early Modern Europe, and Modern American and European Women in Historical Perspective.

HIST 05523: Colloquium In European History II 3 s.h.
Prerequisites: HIST 05522
This course is the second graduate colloquium on the topic of European history that students in this program will take. Otherwise, it is identical to Colloquium in European History I.

HIST 05524: Colloquium In European History III 3 s.h.
Prerequisites: HIST 05523
This course is the third graduate colloquium on the topic of European history that students in this program will take. Otherwise, the course is identical to Colloquium in European History I.

HIST 05531: Colloquium In Global History I 3 s.h.
This course is the first graduate colloquium on the topic of global history that students in this program will take. The course focuses on in-depth historical analysis of a selected theme in global history, including work with historical sources, critical reading of historians' accounts, intensive research and writing, and class discussion. Proposed areas of specialization include Africa, Asia, Eastern Europe, and the Middle East.

HIST 05533: Colloquium In Global History II 3 s.h.
Prerequisites: HIST 05531
This course is the second graduate colloquium on the topic of global history students in this program will take. Otherwise, the course is identical to Colloquium in Global History I.

HIST 05535: Colloquium In Global History III 3 s.h.
Prerequisites: HIST 05533
This course is the third graduate colloquium on the topic of global history students in this program will take. Otherwise, the course is identical to Colloquium in Global History I.

HIST 05545: History of Crime 3 s.h.
Prerequisite(s): Graduate or senior status
This course examines crime in historical perspective, as a window into both social history and shifting approaches to historical study. Graduate students will work in-depth with analysis of both primary and secondary source materials.

HIST 05551: Graduate Independent Study 3 s.h.
Prerequisite: matriculation in the Master of Artsin History program
Students may complete up to 6 elective credits through the independent study option if they wish to pursue specialized knowledge not available through regular coursework. Students must take at least one colloquium related to the topic before engaging in independent study, then develop an individual study proposal with a full time professor in the History Department. The proposal must be approved by the graduate coordinator prior to enrollment in the course.

HIST 05601: Master's Thesis In History I 3 s.h.
Prerequisite: HIST 05510 and HIST 05512
This course requires students to design and begin implementing their own research project to be used to satisfy the program's thesis requirement. Under the guidance of a member of the History Department faculty who agrees to serve as Thesis Advisor, the student will develop a Research Prospectus for their thesis that will consist of an Introduction and Statement of the Problem, a Literature Review, and a brief summary of the proposed research. The student will defend the prospectus before at least two History Department faculty. Prerequisites are two courses in historiography and research methods, Readings and Research in History I (HIST 05.501) and Readings and Research in History II (HIST 05.502). The student will begin implementing the research after obtaining the Committee's approval.

HIST 05602: Master's Thesis In History II 3 s.h.
Prerequisite: HIST05510 and HIST 05512and HIST 05601
In Masters Thesis in History II, the student will write and complete a Masters Thesis. In Masters Thesis in History I (HIST 05.601), the student will have designed and begun implementing their own research project. In this course, under the guidance of a member of the History Department faculty who has agreed to serve as Thesis Advisor, the student will complete the writing of the Thesis. The thesis should, like other graduate courses, engage students in critical reading of historical accounts and provide them with opportunities to reconstruct historical events from original documents, conduct research that is based on primary sources and applies historical methodologies, and write coherent historical analysis. Prerequisites are two courses in historiography and research methods, Readings and Research in History I (HIST 05.510) and Readings and Research in History II (HIST 05.502); and Masters Thesis in History I (HIST 05.601).

CURR 29515: Introduction To Planning And Teaching 4 s.h.
Students will begin their development of the skills necessary to enhance the planning, teaching, and learning processes. Students will be expected to ground their future classroom practice in a strong research base through a study of planning and teaching models and the latest literature on effective teaching.

CURR 29550: Public School Curriculum K-12 3 s.h.
A course that deals with a critical appraisal of current public school curriculum practices. Emphasis will be placed on the following aspects of the K-12 curriculum: the subject matter curriculum, the humanistic curriculum, role of subject matter specialist, the nature of the disciplines, the taxonomies of educational objectives (affective, cognitive, psychomotor). This is a basic course which is a prerequisite for any further study in curriculum. This course may not be offered annually.

CURR 29580: Fundamentals Of Curriculum Development 3 s.h.
This course provides background in goals, objectives, assumptions, values, issues, and theory related to modern curriculum. Topics include learning and curriculum, the nature and structure of knowledge and curriculum design, criteria for staff, lay advisers, committees, and consultants for the purpose of curriculum planning. This is a basic course which is a prerequisite for further study in curriculum.

CURR 29590: Curriculum Evaluation 3 s.h.
Emphasis will be on identification, organization, and practical applications of selected curriculum evaluation models. This course is designed to enable a student, or a team of students, to determine what and when to evaluate, whom to evaluate, and how to evaluate. Students will be expected to demonstrate a knowledge base in curriculum theory and development. A curriculum evaluation project is required. This course may not be offered annually.

CURR 29600: Specialization Seminar And Investigation I 3 s.h.
The student must complete a special project in the field of specialization which demonstrates his ability to apply theory and research. Focuses upon applying general and specialized knowledge to the examination of proposals and research on the processes of change and innovation.

CURR 29601: Specialization Seminar And Investigation II 3 s.h.
The student must complete a special project in the field of specialization which demonstrates his ability to apply theory and research. Focuses upon applying general and specialized knowledge to the examination of proposals and research on the processes of change and innovation.

ECED 23510: Curriculum Development In Early Childhood Programs 4 s.h.
This course is focused on the content and characteristics of developmentally appropriate curriculum to support growth, development, and learning of young children. Factors that influence early childhood curriculum development, the important role of family and culture, the integration of play, literacy, and assessment are studied. Students learn to apply the recommended standards for developmentally appropriate practices and curriculum. This course also includes a field experience with visitations to early childhood classes/programs.

ECED 23511: Understanding Child Development And Behavior In The Classroom 3 s.h.
This course has two main components: Understanding child development and supporting young children's social emotional development in inclusive early childhood settings. Teacher candidates will utilize research in child development including theories and perspectives from neuroscience and psychology to achieve a holistic understanding of development in the first five years in order to guide young children's social emotional development. Teacher candidates will work with children in diverse settings and actively support young children with emerging social-emotional competencies. Completing field based assignments is required.

ECED 23512: Exploring the World: Literacy, Social Studies, and Creative Experiences in Early Childhood 3 s.h.
Prerequisites: ECED 23.511
This course provides candidates with knowledge, skills, and dispositions necessary to create authentic learning experiences for young children through the integration of literacy, social studies, and creative experiences. Candidates will explore various curriculum models and heavily use project approach and other play based and developmentally appropriate methods to teach these subject areas in inclusive early childhood settings. Course content will emphasize diversity, family and community as the foundation of curriculum with young children. Candidates will be required to develop and teach lessons in the preschool classrooms and to develop a theme based unit plan built on the students data collected from the preschool classroom.

ECED 23513: Assessment In Early Childhood Education 3 s.h.
Prerequisites: ECED 23512, ECED 23514 andCorequisite: ECED 23515
This course focuses on analyzing assessment methods in early childhood education. Candidates will examine different methods and tools of assessment, explore the concept of assessment driven instruction, and learn to develop differentiated instructional strategies based on student assessment data. They will also learn to share the data with families and other professionals in the field. In addition to assessing students, candidates will explore early childhhood program assessment tools such as teh Early Childhood Environmental Rating Scale-Revised (ECERS-R), the Classroom Assessment Scoring System (CLASS), and the Assessment of Practice in Early Elementary Classrooms (APEEC), in order to ensure comprehensive quality of the education. Conducting a case on one child in preschool level will be required for this course.

ECED 23514: Family, Community, And Professional Ethics 3 s.h.
Prerequisite: ECED 23511Corequisite: ECED 23512
This course focuses on parent-child relationships and partnerships between parents and their schools and communities. The course examines the role of the parent and the development of young children (P-3). Issues related to P-3 children will be studied along with topics such as family dynamics, curriculum, parental roles, and cultural diversity. Professional ethics will be integrated throughout this course in relation to working with young children and their families both in individual and group settings. Techniques for involving parents and families in school environments will be examined through discussion and lecture. Developing a plan for collaborating with diverse families will be required for this course.

ECED 23515: Young Scientists: Science, Technology, Engineering, and Math experiences in Early Childhood (3) 3 s.h.
Prerequisites: ECED 23512, ECED 23514Corequisites: ECED 23513
This course provides candidates with knowledge, skills, and dispositions necessary to create authentic learning experiences for young children through the integration of science, technology, engineering, and math (STEM). Candidates will modify the learning environment and materials, utilize project approach and use other play based and developmentally appropriate methods in teaching STEM subject areas in inclusive early childhood settings. Course content will emphasize intellectual and cognitive growth of young children and the ways to engage children in higher level thinking skills such as inquiry, collaboration, critical thinking, and creativity. Candidates will teach children to complete field-based assignments.

ECED 23521: Continuous Quality Improvement in Early Childhood: Research & Policy 3 s.h.
This course will provide an overview of early childhood quality improvement initiatives and efforts for continuous quality improvement (CQI). Students will examine the current landscape of research, policy and practice as it relates to quality improvement efforts (including the role of technical assistance) and CQI, as well as frameworks and theories of change. Students will also engage in a critical analysis of the definition of quality using theoretical frameworks as reference.

ECED 23522: Critical Perspectives on Coaching & Mentoring in Diverse Early Childhood Settings 3 s.h.
This course focuses on the practices coaches and mentors utilize in early childhood settings. The course will provide a thorough overview of different frameworks and theories of adult learning along with additional fundamental critical perspectives examining the ways in which people learn and know. Students will investigate models for reflective practices and apply them to their own work and experiences in the field through the lens of mentor/coach and mentee/coachee.

ECED 23523: Access & Equity: Culturally Responsive Practices in Technical Assistance 3 s.h.
Prerequisite(s): ECED 23521 and ECED 23522
This course will build on the literature on culturally responsive competencies and practices to provide a framework for the early childhood technical assistance process. Students will examine critical issues such as gender, language, age, context, sexuality, class, and culture and investigate the ways that leaders can be culturally responsive to the programs in the cultural and community contexts they are situated as they provide technical assistance.

ECED 23524: Implementation Science and Quality Improvement Initiatives 3 s.h.
Prerequisite(s): ECED 23521 and ECED 23522
This course will focus on building an understanding of implementation science as a framework for helping translate research to practice in early childhood education. Students will integrate implementation science components to help implement evidence-based practices in quality improvement initiatives as a self-study. Students will draw on their past and current field experience to develop a case study that involves a quality improvement plan for a program.

ECED 23526: Developing Expertise as an Agent of Change within Early Childhood Systems 3 s.h.
Prerequisite(s): ECED 23523 and ECED 23524
This course will examine the early childhood professional's role as an agent of change by analyzing literature on equity, access, policy, systems, community building, family engagement and advocacy as it relates to early childhood education. Students will integrate multidisciplinary literature to build their knowledge, skills, and dispositions as leaders. Students will apply their knowledge by engaging in an advocacy project that will serve educational and academic communities of early childhood care and education in multiple ways.

ECSE 10501: Methods for Assessing and Teaching Infants and Toddlers with Disabilities 4 s.h.
Prerequisite(s): ECSE 10500
This course provides the knowledge and skills necessary to be effective professionals in providing early intervention services for families, infants, and toddlers with disabilities, and those at-risk for development delays. Emphasis is placed on parent-professional collaboration and interagency/interdisciplinary planning, assessment, and design of family-focused, culturally sensitive Individualized Family Service Plans (IFSP). The course includes an overview of a variety of curriculum models, assessments, and instructional strategies for intervention practice (includes field experience).

ECSE 10502: Methods for Assessing and Teaching Preschool Children (3-5) with Disabilities 4 s.h.
Prerequisite(s): ECSE 10500
This course provides foundation content for educators to better understand the field of Early Childhood Special Education (3-five). Age appropriate assessments, DEC best practice guidelines and NJ content standards will be presented in a strength-based, naturalized environment and family-centered context. Students will have multiple opportunities to reflect on and present new learning.

ECSE 10503: Supporting Diverse Families, Community Partnerships, and Transitions 3 s.h.
Prerequisite(s): ECSE 10500
This course provides foundation content for educators to better understand the field of Early Childhood Special Education. The content of this course will focus on supporting young children with special needs and collaborating with their families. Course material will include early childhood transitions and the effective collaboration with community and educational stakeholders. Students will have multiple opportunities to reflect on and present new learning.

EDST 24502: Initiation Of Internship Project 1 s.h.
see EDST24.608

EDST 24565: Analysis And Application Of Research 3 s.h.
Students will develop skills necessary to critically analyze and interpret educational research. Interpretation of statistics, analysis of research design, and the use of educational data bases will be components of the course. Emphasis will be on the application of educational research to actual classroom problems through a case study method as well as student-designed projects.

EDST 24602: Development Of Internship Project 1 s.h.
See EDST24.608

EDST 24608: Internship Project Report 2 s.h.
Students will design and complete an individual internship project applying scientific inquiry and research methodology to an identified problem of interest in an area related to instructional practice, curriculum development and/or learning. These courses, Initiation of Internship Project (1 S.H.), Development of Internship Project (1 S.H.) and the Internship Project Report are completed during Phases II, III and IV of the Master of Science in Teaching Program.

EDUC 01500: Trends And Practices In Classroom Teaching 3 s.h.
Corequisites: ELEM 02511
This course focuses on emerging trends in elementary and subject matter classroom practices. Topics include standards and accountability, constructivist and experiential teaching, inclusion and differentiation, culturally responsive teaching, and collaboration with families and communities. Special emphasis is placed on the background of each trend, related issues, and implications for practice.

EDUC 01601: Clinical Internship I 3 s.h.

EDUC 01603: Clinical Seminar I 2 s.h.
Students will complete a field experience focusing on sequenced observations and supervised beginning teaching experiences in a variety of school settings. Specific competencies shall be developed in: 1) teaching and learning, 2) curriculum, 3) pupil guidance, and 4) classroom organization and management. Concurrent seminar study will focus on knowledge of the special needs of students, applications of educational technology and student assessment and evaluation.

EDUC 01605: Clinical Internship II 7 s.h.

EDUC 01607: Clinical Seminar II 1 s.h.
Students will complete a supervised semester-long teaching internship in an assigned classroom and school setting. They will research and apply general and specialized knowledge to the processes involved in full-time classroom teaching and other teacher responsibilities. Seminar study will emphasize effective teaching practices that extends their previous learning and current intern teaching.

EDUC 01608: Internship Project Report 1 s.h.
Students will design and complete an individual internship project applying scientific inquiry and research methodology to an identified problem of interest in an area related to instructional practice, curriculum development and/or learning. These courses, Initiation of Internship Project (1 S.H.), Development of Internship Project (1 S.H.) and the Internship Project Report are completed during Phases II, III and IV of the Master of Science in Teaching Program.

EDUC 01610: TCHNG FOR EQUIT/ACHIEV DVRS CL 3 s.h.
This course focuses on issues and concepts in critical multicultural education and their implications for teaching and learning in diverse school settings. Students will critically examine influences on students' schooling experiences and the historic and current challenges of non-dominant students in the U.S., such as racism, discrimination, school organization, and the social and political contexts of school and society. The course will also focus on methods to build a multicultural classroom that supports equity and achievement for all students.

EDUC 01624: Educational Change 3 s.h.
Prerequisite: ELEM 02550 with a minimum grade of B
To assume leadership roles and to become change agents for their respective schools, teachers will analyze the influences, trends, social and political forces that generate and impact educational change at varying levels, i.e., at the classroom, school, community, state, and national levels. They will develop knowledge of the stages of systemic education change and strategies to achieve and sustain momentum for change. Various field work components will be integrated throughout this course.

EDUC 01700: Leadership Through Professional Learning Communities 3 s.h.
This course is designed to provide Ed.D. students with the opportunity to plan and put into practice their knowledge, skills, and dispositions for providing leadership through Professional Learning Communities. This course will begin by examining the critical stages of group development in establishing Professional Learning Communities, through the lens of detailed school-based examples. Students will follow this examination by engaging in their own identification of an educational issue, and complete a subsequent PLC plan, implement the plan, document and analyze experience and report.

EDUC 02602: MST Professional Seminar 1 s.h.
Prerequisites: EDUC 01610 and SELN 42954 and EDUC 01601 and either ELEM 02513 or SMED 60501. Corequisites: EDST 24504 and EDUC 01605
This course provides support to MST candidates as they undergo their student teaching experience (Clinical Internship II). Candidates are required to reflect regularly on their teaching and school experiences and use these reflections as a basis for discussion in the course. Throughout the semester, they will make connections between the course readings and discussions and their professional practice. Specific course topics will include classroom management, assessment, inclusion, culturally responsive teaching, motivating students, working with families and communities, the job search, and professional development.

ELEM 02338: Practicum In Mathematics And Literacy 1 s.h.
Corequisites: ELEM 02336 and READ 30351 Prerequisites: ELEM 02319 and SPED 08316
This field experience course provides an opportunity for candidates in the Elementary Education Specialization to practice their developing instructional skills once a week in a K-5 classroom setting. Candidates will work with partners in assigned classrooms to assist with literacy and mathematics instruction and to take the lead in developing and teaching lessons in literacy and mathematics.

ELEM 02511: Learning Community Classrooms 3 s.h.
This course focuses on identifying the characteristics of a learning community classroom, the propensities of learning community teachers, and the stages of group development in establishing a learning community. Course activities include study of personal planning, implementing, and reflecting strategies for establishing a learning community classroom.

ELEM 02512: Teaching Math, Science, And Health In Elementary Classrooms 3 s.h.
Prerequisites: ELEM 02511 and EDUC 01500Corequisites: READ 30555
This course focuses on understanding and developing inquiry-based, interdisciplinary instruction based on national and state standards in mathematics, science, and health at the elementary school level. Students will critically examine the principles of inquiry-based instruction and develop interdisciplinary lesson plans along with performance-based assessments. As a culminating project, students will develop a hands-on learning kit for the elementary classroom.

ELEM 02513: Teaching Language Arts, Social Studies And The Arts In Elementary Classrooms 3 s.h.
Prerequisites: READ 30515 and ELEM 02512Corequisites: EDUC 01601 and EDUC 01610and SELN 42954
This course examines the use of established elementary education content standards and teaching methods in social studies, the arts, and language arts and how interdisciplinary, thematic units of inquiry facilitate meeting those standards. Students apply current research on how children learn and on effective teaching methods in social studies, the arts, and language arts. Students also apply instructional knowledge and skills they are developing related to inquiry-based interdisciplinary instruction, assessment, and differentiating that instruction for elementary students in the co-requisite field internship.

ELEM 02539: Contemporary Curriculum Processes/Elementary Language Arts 3 s.h.
This course examines current theory and practice in the teaching of all of the language skills of the elementary school. Criteria are developed for evaluating teaching practices in terms of today's demand for improved and expanded communications skills. This course may not be offered annually.

ELEM 02540: Contemporary Curriculum Processes/Elementary Mathematics 3 s.h.
The primary purpose of this course is to examine and evaluate practices of teaching and criteria of evaluating mathematics in the elementary grades. Criteria will be obtained by studying research findings and examining the recommendations of authorities in the field. Courses of study will be evaluated using established criteria. This course may not be offered annually.

ELEM 02550: Analysis Of Classroom Teacher Behavior 3 s.h.
Through a review of the literature and self-analysis, students will examine relationships between teacher personality characteristics, classroom processes, and pupil achievement. All students will have opportunities to identify variables which research reveals as significantly correlated with pupil growth. Ample opportunity will be provided for students to develop expertise in the use of a low-inference, relatively objective, and highly reliable system of analyzing classroom interaction. This course may not be offered annually.

ELEM 02552: Research On Children's Mathematical Learning 3 s.h.
This course introduces the graduate student to theories of how elementary and middle-school students learn mathematics and to current research on children's thinking and learning of mathematics. It surveys research findings on the child's understanding of mathematical concepts such as number, operations, fractions and proportions, measurement, and space. The focus of the course is how children learn mathematics, and it will enable the graduate student to see mathematics from the standpoint of the elementary and middle school child. This course will aid the teacher in discerning a child's understanding of mathematics as a basis for determining the type of mathematics instruction for which he/she is ready.

ELEM 02556: Principles Of Identification And Treatment Of Mathematics Deficiencies 3 s.h.
This course introduces the student to the principles of identifying, prescribing, planning and teaching for mathematics deficiencies in elementary school children. Students have the opportunity to design a diagnostic instrument and plan an individualized instructional program based upon findings. This course may not be offered annually.

ELEM 02601: Seminar In Elementary Teaching 3 s.h.
Each student is expected to conceive, conduct and report an investigation that will display sound knowledge of educational theory, appropriate research procedures and skill in communication.(ELEM02.600 offered in fall only; ELEM02.601 offered in spring only.)

ELEM 02602: Self Study Research in Teacher Leadership 1 s.h.
Prerequisites: CURR 29580, LDTC 18510, ELEM 02511,ELEM 02550, EDUC 01624, READ 30566
During the final semester of their studies in the Master of Education in Teacher Leadership degree, students will work closely with a faculty member to conduct a scholarly self-study that examines how their emerging teacher leadership skills reflects the standards that guide the program and current research in teacher leadership. This self-study will result in the production of a Synthesis Portfolio, a visual or graphic organizer, and a slide-show guided presentation of the graduate candidates' work and accomplishments during the time of their program studies in teacher leadership.

FNDS 21230: Characteristics Of Knowledge Acquisition 3 s.h.
This course will focus on how human beings think, process information and acquire skills. Discussion of learning philosophies and applications in a variety of settings will be addressed. Methods of inquiry, reflection, motivation, creativity and critical thinking will be explored.

FNDS 21530: Foundations Of Multi-Cultural Education 3 s.h.
This course is designed to focus on the key relationships between formal education as a social and cultural institution in American society and multicultural education as a response to contemporary societal needs. The course examines the areas of curriculum, pedagogy and evaluation in multicultural education as they affect and are affected by the education professional. The course requires empirical investigation and subsequent analysis through selected topics in research in Intercultural Education.

LDTC 18500: INDEPENDENT STUDY 1 to 6 s.h.

LDTC 18503: Foundations Of Learning Disabilities 3 s.h.
A general introduction to learning disabilities, with emphasis upon remediation of basic skills and pedagogical rationale. Students will become familiar with the various types of disorders encountered in pupils with learning disabilities and with appropriate instructional techniques and materials.

LDTC 18504: Assessment Of Learning Disabilities 3 s.h.
In this two semester sequence, emphasis will be on evaluation and remediation of learning disorders in school age children. A case study is required. Enrollment limited to students matriculated in the Learning Disabilities program. (LDTC18.504 is offered in the fall semester and LDTC18.505 is offered in the spring semester.)

LDTC 18505: Correction Of Learning Disabilities 3 s.h.
In this two semester sequence, emphasis will be on evaluation and remediation of learning disorders in school age children. A case study is required. Enrollment limited to students matriculated in Learning Disabilities program. (LDTC18.504 is offered in the fall semester and LDTC18.505 is offered in the spring semester.)

LDTC 18510: Applied Theories Of Learning 3 s.h.
Educators will develop and articulate their own theories of learning after examining carefully and critically the prevalently existing and competing theories of learning. The study of motivation and its effect on learning including the use of rewards and incentives will be covered as well.

LDTC 18516: Applied Tests And Measurements 3 s.h.
Emphasis is placed upon data-gathering, the evaluation of data and the use of data in educational measurement. Standardized tests, both group and individual, will be studied. Generally, enrollment is limited to those who have been formally admitted to the student personnel services, learning disabilities and school psychology programs.

LDTC 18520: Neurological Bases Of Educational Disorders 3 s.h.
The student will study the nature of physiological readiness for learning with regard to the various disabilities. The varieties of physical, mental, and learning disabilities will be related to the neurophysiological basis for learning.

LDTC 18525: Advanced Assessment Techniques 3 s.h.
This course is designed for the advanced graduate student in learning disabilities. It provides for the development of competence in a variety of assessment instruments useful in differential diagnosis of complex learning problems. This course may not be offered annually.

LDTC 18540: Motor Development In Young Children With Disabilities 3 s.h.
The course investigates motor development resulting in disabling conditions in young children. Major theorists and research are an integral part of the course work. Assessment options and research-based interventions are explored. This course may not be offered annually.

LDTC 18545: Language Development In Young Children With Disabilities 3 s.h.
The course investigates language acquisition and the physiological, environmental and psychological factors which may influence that development in the young children. This course may not be offered annually.

LDTC 18550: Foundations In Early Childhood Special Education 3 s.h.
The course surveys the bases of disabilities in young children. Diagnostic techniques, materials and methods are explored. Classic studies and current research will be studied.

LDTC 18600: Seminar And Research In Learning Disabilities 3 s.h.
This course considers current issues, trends, problems, and research of significance to learning disabilities. Students complete a thesis/project which evidences capacity for research and independent thought. Registration by permission of the program advisor only. The comprehensive examination is taken during LDTC18.601.

LDTC 18601: Seminar And Research In Learning Disabilities 3 s.h.
This course considers current issues, trends, problems, and research of significance to learning disabilities. Students complete a project which evidences capacity for research and independent thought. Registration by permission of the program advisor only. The comprehensive examination is taken during LDTC18.601.

LDTC 18650: Clinical & Field Experiences In Learning Disabilities 3 to 6 s.h.
Students engage directly in supervised case work with children demonstrating learning disorders. Assessment and appropriate, research-based remediation of learning problems, consultation skills and in-service program design are required in a 120-clock hour clinical and field setting. Only matriculated students may register for this course.

SELN 10576: Effective Inclusive Instruction 3 s.h.
This course is designed to begin developing the knowledge, skills, and dispositions necessary for general education teachers to understand and educate students in inclusive classrooms. Emphasis will be on: (a) understanding the legal foundations for inclusive instruction, (b) recognizing students' diverse strengths and needs, (c) designing, implementing, and assessing effectively differentiated lessons that feature research-based strategies, and (d) organizing and managing a flexible, student-centered classroom.

SELN 10577: Collaborative Instruction In Inclusive Classrooms 3 s.h.
Prerequisite: SPED 08555
This course will focus on instructional strategies in inclusive classrooms for students with and without disabilities. Collaborative and consultative skills for working with parents, regular education teachers, special education teachers, support personnel, and school administrators will be discussed and modeled, as well as role play for team teaching in such environments.

SELN 10578: Administration And Supervision In Special Education 3 s.h.
This course considers the problems in administering and supervising programs for students with disabilities between three and twenty-one years of age. Attention is given to organizing, financing and supervising such programs at federal, state and local levels.

SELN 10580: Teaching Students With Moderate And Severe Disabilities 3 s.h.
Through this course students acquire knowledge of the curriculum, assessment procedures, and intervention strategies required to effectively teach individuals with moderate and severe disabilities. Among the areas of emphasis are functional academics, personal care, recreation/leisure, vocational and community living skills. Research-based best practice in instruction for students with moderate and severe disabilities is stressed.

SELN 10581: Implementing Positive Behavior Supports 3 s.h.
This course provides the student with a comprehensive study of the goals of misbehavior in classrooms and in other settings. Specific theoretical techniques and methodology in channeling deviant behavior through the use of behavior modification and other management techniques will be explored. Curricula content, self-development, attitudes, and research finding will enable each student to acquire effective skills in working with learning resistant and deviant behaving children and adults.

SELN 10582: Communication Skills For Students With Disabilities 3 s.h.
This course provides an intensive study of the language needs of students with moderate and severe disabilities and includes individual assessment for the identification of initial communication and the development of acceptable language procedures. Finger spelling, basic American Sign Language, and using technology to develop alternative communication strategies will be covered.

SELN 10585: Educational Assessment In Special Education 3 s.h.
Prerequisite: SPED 08555
Trends, practices, problems and issues in educational assessment will be examined. The course is designed to enable the special education teacher to administer criterion-referenced, informal, or standardized tests and to plan individualized educational programs for students with special needs. Curriculum-based assessment is emphasized.

SELN 10586: Emotional And Behavioral Support Strategies 3 s.h.
This graduate course will discuss positive strategies, related laws and regulations, and services to support students with behavioral and emotional problems. Social and emotional factors that affect behavior and learning will be explored. Emphasis will be placed on appropriate academic and social skills instruction, and pro-social interventions to meet the needs of students with difficulties in social and emotional adjustments.

SELN 10590: Introduction To Autism Spectrum Disorders 3 s.h.
This course is designed to provide graduate level instruction in the salient issues involved in the education of students with autism spectrum disorders (including autism, Asperger's syndrome, Rett syndrome and other pervasive developmental disorders). It provides an overview to candidates about the characteristics, language development, social relationship development, and instructional interventions for children with autism spectrum disorders.

SELN 10591: Instructional Methods For Students With Autism Spectrum Disorders 3 s.h.
Prerequisites: SELN 10590
This course is designed to provide graduate level instruction in the assessment and instruction of students with autism spectrum disorders. Students will learn about evidence-based practices for enhancing the academic, social, behavioral, and communication skills of students with autism spectrrum disorders. They will apply their learning in both in-class case study activities and in field experiences. In addition to specialized practices, students will learn how to modify instruction in general education classes to meet the needs of students with autism spectrum disorders.

SELN 10592: Clinical Seminar In Special Education 2 s.h.
This seminar course is designed to be taken concurrently with the clinical field practice. Students meet throughout the semester to discuss teaching experiences, problem solving strategies, and their own reflections on working with children and youth with disabilities. A teaching portfolio and a report on student progress monitoring are also completed.

SELN 10593: Clinical Internship In Special Education 3 s.h.
This course will provide students an opportunity to apply research-based best practice in the field to teach children and youth with mild, moderate, or severe disabilities. Participants will be observed by both college supervisors and their mentor teachers, and will reflect on their instruction for improvement.

SELN 10600: Research Seminar In Special Education 3 s.h.
Students are expected to conduct an original research project. Guidance and assistance will be provided to help identify a problem, select appropriate research procedures, conduct a study, and write a comprehensive review of the results. Registration is by permission of the program advisor. During the Spring Semester students are required to pass a written comprehensive examination.

SELN 10601: RSRCH SEM IN SPCL ED 3 s.h.

SELN 60576: Inclusive Instruction in STEM Classrooms 3 s.h.
Prerequisite(s): B- or higher in: STEM 60501, READ 30520, STEM 60510Corequisite(s): STEM 60502 and STEM 60512
With a focus on STEM education for students with special needs, this course is designed to begin developing the knowledge, skills, and dispositions necessary for STEM teachers to understand and education students in inclusive classrooms. Emphasis will be on: (a) understanding the legal foundations for inclusive instruction, (b) recognizing students' diverse strengths and needs, (c) designing, implementing, and assessing effectively differentiated lessons that feature research-based strategies, and (d) organizing and managing a flexible, student-centered classroom.

SELN 60577: Effective Inclusive Instruction in English, Social Studies, Theatre, and World Language Classrooms 3 s.h.
Prerequisites: SMED 60.560; Co-requisite SMED 60.562
In this course candidates will learn how to identify the learning difficulties of students with exceptional learning needs and assess, plan, and teach these students using evidence based practices that will enable candidates to succeed in subject matter content classes.

SMED 33502: Processes & Principles Of School Mathematics 3 s.h.
In this course, designed for certified teachers of secondary school mathematics, students will expand their pedagogical repertoires to include the mathematical processes of communicating,representing, making connections, problem solving, and reasoning and proving. The principles of curriculum, teaching, technology, equity,learning, and assessment will provide a framework for the study of the processes and students?current practice. These processes and principles will be studied entirely within the context of school mathematics content.

SMED 60500: Teaching Methods I: Subject Matter 3 s.h.
Prerequisites: ELEM 02511 and EDUC 01500; Corequisites: READ 30515
This course is the first of two subject-specific methods courses required for secondary candidates in the Master's of Science in Teaching program. MST Teacher candidates will learn to organize instructional materials into standards-based units and daily lessons appropriate for K-12 learners. This course focuses on learning theory, standards-based lesson and unit planning, pedagogy, classroom management, and learner diversity.

SMED 60501: Teaching Methods II: Subject Matter 3 s.h.
Prerequisites: SMED 60500 and READ 30515; Corequisites: EDUC 01601 and EDUC 01610 and SELN 42954
This course is the second of two subject-specific methods courses required for secondary candidates in the Master's of Science in Teaching program. Candidates will continue to learn ways to organize instructional materials into standards-based units and daily lessons approporiate for K-12 learners. In conjunction with a co-requisite Internship I experience, this course covers a range of topics necessary to building a learning community in secondary classrooms, such as learning theory, standards-based lesson and unit planning, pedagogy, classroom management, and learner diversity.

SMED 60561: Curriculum, Instruction, & Assessment II 3 s.h.
Prerequisite: SMED 60.650 and Co-requisite: SMED 60.563
The second of two subject-specific methods courses, this class is designed for teacher candidates majoring in English, the social studies, or a world language and planning careers as K-12 teachers. In addition to exploring topics addressed in Curriculu, Instruction, & Assessment I in greater depth, this course places an emplasis on practitioner research, requiring students to develop inquiry questions about their own practice and to collect and analyze relevant data from the field.

SMED 60563: RESIDENCY II 6 s.h.
Prerequisite: SMED 60.562; Co-requisite SMED 60.561
This is the second of the two field experiences required for candidates in the SME MST program. Continuing in their field placement from Residency Ii, candidates will attend their field placements 4 full days per week during the Spring semester. Using both Rowan and placement school district measures of teaching effectiveness, supervisors will evaluate residents on requires demonstrated mastery of subject area content, lesson planning, and multiple instructional strategies to meet varied student needs and demonstrated ability to assess learner progress and modify instruction accordingly, manage all aspects of classroom activity, and work collaboratively with all instructional, administrative, parental, and community members of the classroom and school community..

SMED 60564: MST SME Professional Seminar 3 s.h.
Prerequisite: SMED 60.562 and Co-requisite: SMED 60.561
This is the capstone course in the MST SME and will prepare candidates for their teaching positions by focusing on issues critical to new teachers. The coures is designed to support candiddates in their final transition from teacher candidate to treacher. Topics include understanding school climate, developing a professional development plan, developing a plan for communicating with families, planning for the first six weeks (or unit) of schoiol, and preparing for a substitute teacher.

SPED 08130: Human Exceptionality 3 s.h.
This general education course is designed to develop students' awareness and understanding of the nature and needs of individuals with exceptionalities. It provides a lifespan perspective that will assist students in better understanding and, hopefully, accepting and advocating for individuals with disabilities. A field component is required.

SPED 08307: Assessing Students With Exceptional Learning Needs 3 s.h.
Prerequisites: SPED 08130
This course emphasized linking assessment with educational instruction. Prospective classroom teachers will learn how to routinely use norm-referenced instruments and criterion-referenced techniques, with an emphasis on performance assessment. Introduction to statistical factors in testing, observation of testing, and administration of selected assessment instruments will be included. Teacher candidates will also have the opportunity to develop informal assessments in conjunction with a required field experience component.

SPED 08308: Assistive Technology And Transition Planning 3 s.h.
Prerequisites: SPED 08130
This course will focus on exposing students to a variety of technologies used by and with students with exceptional learning needs. Students will gain hands-on skills in designing technology-based instructional materials for students with a wide range of exceptionalities. A focus on Universal Design for learning is at core of this course- with a goal of providing students with the ability to adapt technology, instruction, and assessment to meet a range of student needs. Exposure to adaptive and assistive technologies, as well as state-of-the-art software and hardware, is also emphasized in the course. All of this will be addressed as part of the development of Individual Educational Plans (IEPs) for students, with special emphasis on transition planning. Transition planning will address all major life transitions(e.g., early intervention to preschool; preschool to elementary; elementary to secondary; and secondary to post-secondary and work environments). A field component will be required.

SPED 08316: Differentiated Instruction In The Inclusive Classroom 2 s.h.
Prerequisites: SPED 08130
This Junior Level (300) course will focus on how the diverse needs of individuals with educational disabilities/differences can be met within the general education classroom environment. Emphasis will be on developing communication/collaboration, instructional and assessment strategies that will assist the classroom teacher in diversifying instruction to meet individual needs. A field component is required.

SPED 08325: PRACT SPEC ED I 4 s.h.

SPED 08326: PRACT SPEC ED II 4 s.h.

SPED 08360: Positive Behavioral Support Systems For Students With Exceptional Learning Needs 3 s.h.
Prerequisite: SPED 08130
This course exposes students to a variety of theoretical approaches in behavior management of students with exceptional learning needs and how to apply those skills in classroom practices. A field component is required.

SPED 08415: Specialized Instruction For Students With Exceptional Learning Needs 3 s.h.
Prerequisites: SPED 08130 and SPED 08316and SPED 08307
This senior-level course enhances the systematic progression of skills initiated during the earlier stages of the Teacher of Students with Disabilities Endorsement Program. The course prepares candidates to teach students with exceptional learning needs, covering instructional methods and strategies to teach self-help, motor, reading, math, language, study skills, science, and social studies. The course also emphasizes supporting students with exceptional learning needs in inclusive classrooms. There is a required field experience component with this course.

SPED 08445: Clinical Seminar In Special Education 1 to 2 s.h.
Prerequisites: SPED 08415
This course is designed to be taken with Clinical Practice in Special Education. The seminar will focus on three major areas within the candidate's area of specialization, application of effective teaching research, and analysis and evaluation of the Clinical Practice experience. This course is intended to be a capstone experiences for all candidates in the Teacher of Students with Disabilities Endorsement Program.

SPED 08450: Clinical Practice In Special Education 4 s.h.
Prerequisites: SPED 08415 or SPED 08416
This is the culminating field experience for candidates in the Teacher of Students with Disabilities Endorsement Program. Clinical Practice provides candidates with full-time placement in a classroom setting that serves students with exceptional learning needs. Under University supervision and working with a clinical teacher, candidates assume full responsibility for planning, teaching, and managing a special education program during this placement. As the culminating field experience for seniors in the Teacher of Students with Disabilities Endorsement Program, Clinical Practice provides candidates with one full-time placement in a classroom setting, serving students with exceptional learning needs. Under college supervision, and working with a clinical teacher, teacher candidates assume full responsibility for planning and teaching during this placement.

SPED 08515: Curriculum, Instruction, And Transition In Special Education 3 s.h.
Prerequisite: SPED 08555
This course will provide an overview of instructional strategies for teaching students with special needs. It will focus on research-based best practices of instruction to students with disabilities in the areas of academics, social interactions, and transition from school to adulthood and employment. Training and education to prepare individuals with disabilities for successful community living will also be emphasized. Field-based assignments are required.

SPED 08520: Clinical Experiences In Special Education 4 s.h.
This course provides the student with the opportunity to engage in a variety of field-based experiences with students with disabilities. Participants will be placed in self-contained, resource centers and inclusive settings to apply research-based best practices. A weekly seminar to discuss experiences and current issues in special education will be required.

SPED 08540: Technology For Students With Special Needs 3 s.h.
This course is designed to assist special and regular educators with effective instructional applications of hardware, software, Internet resources, and adaptives. Students will be required to design, implement and evaluate instructional program plans that incorporate examples of current technological materials/devices that foster independence in students with special needs in the regular or special education classroom. Prerequisites: Basic computer skills (e.g., ability to use word processing, email, and the WWW).

SPED 08555: Education & Psychology Of Exceptional Learners 3 s.h.
The course provides an in-depth study of individuals who are so different that they require special social and educational programming. The course content develops an understanding of characteristics and problems of handicapped children and acquaints students with the basis for identifying, classifying and planning to effectively meet needs of children with physical, mental, emotional and social handicaps.

SPED 08595: INDEP STUDY-SP ED 1 to 6 s.h.

BINF 07500: Bioinformatics Seminar 3 s.h.
Prerequisites: CHEM 07595 and BIOL 05555 and CS 07595
This advanced literature survey course in bioinformatics covers current and emerging topics in the field of Bioinformatics through the analysis of current primary literature. The multidisciplinary nature of bioinformatics will be highlighted through examples of computational approaches to solving biological, biochemical, and applied biomedical research problems. Emphasis is placed on the interplay between computational methods and how they are applied to solve real problems in biology and biochemistry. Students will engage in semester-long research projects culminating in a presentation of a topic from the primary literature.

BINF 07501: MS Thesis Research 1 3 s.h.
Prerequisites: CHEM 07595 and BIOL 05555 and CS 07595
This is the first semester of research in Bioinformatics for students pursuing a MS degree with thesis. Thesis project outline and thesis committee must be selected and approved PRIOR to the start of this course.

BINF 07502: MS Thesis Research 2 3 s.h.
Prerequisite: BINF 07501
This is the second semester of research in Bioinformatics for students pursuing a MS degree with thesis. Thesis project outline and thesis committee must be selected and approved PRIOR to the start of this course. This course is an extension of the project undertaken as part of MS Thesis Research 1 (BINF 07501)

BINF 07503: MS Thesis Research 3 3 s.h.
Prerequisites: BINF 07502
This is the third semester of research in Bioinformatics for students pursuing a MS degree with thesis. Thesis project outline and thesis committee must be selected and approved PRIOR to the start of this course. This course is an extension of the project undertaken as part of MS Thesis Research 2 (BINF 07502)

DA 01505: Data Analytics Capstone Practicum 4 s.h.
Prerequisite(s): Graduate standing or permission of the instructor.
This course provides a culminating experience for students graduating with an M.S. in Data Analytics. This course will reinforce ethical awareness and good decision making in health-related situations and discuss the specific professional and ethical responsibilities of the health data practitioner.

DA 01510: Data Analytics Laboratory I 1 s.h.
Prerequisite(s): Graduate standing or permission of the instructor.
This lab provides faculty guidance and supervision beyond the scope of existing courses. Students learn how to develop and structure their deliverables, as well as how to use data analytics tools in the context of real-world or research projects.

DA 01511: Data Analytics Laboratory II 1 s.h.
Prerequisite(s): Graduate standing or permission of the instructor.
This second lab provides additional faculty guidance and supervision beyond the scope of existing courses. Students learn how to develop and structure their deliverables, as well as how to use data analytics tools inthe context of real-world or research projects.

DA 02505: Data Mining I 3 s.h.
Prerequisite(s): Graduate standing or permission of the instructor.
This is a first graduate level course in Data Mining, which is designed to teach students the key steps in data mining, along with the primary algorithms related to data acquisition, cleansing, and supervised and unsupervised learning.

DA 02510: Visual Analytics 3 s.h.
Prerequisite: Graduate standing or permission of the instructor.
This is a graduate level course that investigates visual analytics tools and techniques used to synthesize information and derive insight from massive, dynamic, ambiguous, and often conflicting data, and to communicate the findings effectively for decision-making. Extensive use of case studies based on real-world events will be used to illustrate course concepts. Students will be required to present recent conference or journal papers from the visual analytics literature and to apply visual analytics techniques toward a focused research problem in a real-world application or a domain of interest.

DA 02515: Data Warehousing 3 s.h.
Prerequisite: Graduate standing or permission of the instructor.
This course is designed to teach students data modeling, enterprise data integration, and other issues related to managing massive data sets necessary for data mining for business intelligence. The course focuses on data warehousing anad cloud storage, with an emphasis on modeling and architectures, and their application to decision support.

DA 02605: Data Mining II 3 s.h.
Prerequisite(s): DA 02505
This course follows Data Mining I which is designed to train students in the necessary algorithms for extracting intelligence from large datasets. In Data Mining II, more advanced topics are covered including advanced clustering techniques, Principal Component Analysis, Naïve Bayes clustering and other techniques.

DA 03505: Data Quality and Web/Texting Mining 3 s.h.
Prerequisites: Graduate standing in M.S. in Data Analysis and Data Mining I (DA 02.505)
This course studies data quality problems and solutions in the context of text and web mining, which is the exploration of vast amounts of digitized text for use in knowledge discovery or more particularly drug discovery in the biomedical field.

DA 03510: Patient Data Understanding 3 s.h.
Prerequisite(s): Graduate standing or permission of the instructor
In this course we focus on understanding the patient and other health-related data, including the various sources of data and their commercial use. Furthermore, industry trends and developments related to health-related data will be researched and tracked by the students.

DA 03511: Patient Data Privacy & Ethics 3 s.h.
Patient Data Privacy & Ethics Prerequisite: Graduate standing or permission of the instructor. 3 s.h. In this course we focus on understanding privacy and ethical issues as they relate to patient and other health-related data, as well as to health information systems. Industry trends and developments will be researched and tracked by the students.

DA 03520: Healthcare Management 3 s.h.
Prerequisite(s): Graduate standing or permission of the instructor.
This course provides a comprehensive overview of the healthcare management field. Students will be introduced to organizational behavior theories as well as organizational behavior issues specific to the healthcare industry. Students will gain an understanding of the major functions, roles, and responsibilities of those working in healthcare management, including resource and technology management. Students will also gain an appreciation for the legal and ethical issues inherent in healthcare management.

DPEM 00101: Introduction to Emergency Management and Homeland Security 3 s.h.
This course presents comprehensive overview of the discipline of Emergency Management and Homeland Security. Attention to mitigation, preparedness, response, and recovery will be emphasized. An analysis of past disasters will be presented along with their impacts on policy formation leading up to the current FEMA all-hazards approach. The role, duties, and importance of the Emergency Management professional will be discussed throughout the semester. Moreover, a discussion of ethical issues and career options will be presented.

DPEM 00310: Critical Infrastructure and Incident Command: Theory and Practice 3 s.h.
Prerequisite(s): DPEM 00101
This course introduces students to the methods and approaches to protecting critical infrastructure as a means od effectively protecting people, physical entities and cyber systems and the establishment of an effective incident command operation. Moreover, students will examine vulnerability rise reduction strategies, contingency planning, and strategic partnership models as they are applied to the critical infrastructure sectors. Course topics include risk assessment and management, contingency planning, training and exercises, the role of the crisis management team, crisis communications, and public and private sector roles and relationships in emergency management.

DPEM 00400: Disaster Planning, Mitigation and Recovery 3 s.h.
The purpose of Disaster Planning, Mitigation and Recovery is to introduce the concepts and skills of hazard mitigation and recovery planning, vulnerability risk analysis, and implementation of a community-wide program disaster preparedness plan, and to relate them to hazard planning and mitigation processes of disaster planning. Students will design an exercise, identify the logistics necessary for execution and management of the exercise, and develop an exercise evaluation plan. The course instruction will follow and meet the guidelines established by the Federal Emergency Management Agency exercise design and evaluation courses and the Department of Homeland Security Exercise and Evaluation Program.

DPEM 00410: Public Leadership in Crisis Management & Communications 3 s.h.
This course provides an overview of political and organizational leadership in crisis situations by addressing prevention of potential crises, mitigation of those that do occur, and recovery and restoration in the wake of a crisis. Students learn why effective crisis preparation and response are crucial, how to handle internal and external communications, and which leadership qualities are essential for effectively managing a crisis.

INTR 01488: Career Planning And Development 2 s.h.
This course will provide students with multifacted experience in career planning and development. Students will engage in self-assessment, career exploration, job search strategies and decision making.

INTR 01499: Bachelor Of General Studies Portfolio 1 s.h.
This course is limited to students enrolled in the General Studies Program.
This course is the portfolio component required for all students in the Bachelor of General Studies Program. Students will analyze their academic progress through self-reflective assessment.

INTR 01503: Seminar On Integrating Mathematics And Science 3 s.h.
This interdisciplinary seminar is designed for advanced graduate students with some background in teaching mathematics and/or the sciences at the elementary and/or middle school level. Students in the course will examine a number of current scientific issues from the perspective of different sciences and develop and pilot instructional activities relating to those issues.

INTR 11511: Urban Teacher Residency 0 s.h.

SE 01501: Sustainable Engineering Fundamentals 3 s.h.
Sustainable Engineering incorporates development and implementation of products, processes, and systems that meet technical and cost objectives while protecting human health and welfare and elevating the protection of the biosphere as a criterion in engineering solutions. This course will introduce the role of engineers in sustainability and provide tools to measure sustainable systems.

SE 01502: Life Cycle Assessment 3 s.h.
This course will introduce students to the fundamental principles of Life Cycle Assessment. Students will apply the ISO 14000 standard methodology to perform a life cycle assessment of a product or process. Students will perform assessments using process-based analysis models, input-output and hybrid approaches of life cycle assessments. Critical Assessments of published life cycle assessments will be conducted. Extensive use of life cycle assessment software will be required for this course. Software programs will be used extensively in this course.

SE 01503: Environmental Policy 3 s.h.
This course is an introduction to the history, organization, goals, and ideals of environmental policy in America. It examines the shift in emphasis from nature protection to pollution control to sustainability over the twentieth century and develops critical tools to analyze changing conceptions of nature and the role of science in environmental policy formulation. Of central interest is the relationship between knowledge, uncertainty, and political or legal action. Theoretical approaches are combined with case studies of major episodes and controversies in environmental protection.

SE 01504: Environmental Management 3 s.h.
This course deals with integrated environmental management issues and methodologies with a global perspective. Topics include environmental decision-making from a socio-economic and environmental standpoint, environmental data collection, analysis, and management techniques for environmental assessment and feasibility case studies. The course is intended to give students an understanding of current environmental issues and tools for analysis of data for environmental management. The issues are examined from the worldwide perspectives of science, engineering, business and society. The course will culminate in an original research project and presentation.

SE 01505: Sustainable Energy 3 s.h.
Sustainable Energy is an introduction to the characteristics of a sustainable source of energy. Numerous energy sources will be investigated to determine their role in a sustainable future. Technologies such as solar, wind, biomass, geothermal, hydropower and other emerging technologies will be studied. A fundamental concept of the course is that a sustainable energy source must be technically feasible, economically viable, protect human health and welfare, as well as protect teh biosphere.

JRN 02210: Journalistic Writing For Nonmajors 3 s.h.
Prerequisites: COMP 01112
This course introduces students to a wide variety of news writing forms. The course covers material ranging from news writing to features, editorials, sports copy and blogging. Students learn how to strengthen their writing through techniques such as using active voice, varying sentence length, and copy editing.The course is designed for non-Journalism majors.

JRN 02313: Magazine Article Writing 3 s.h.
Prerequisite(s): JRN 02310 or JRN 02210 or PR 06301 or WA 01300 with a grade of C- or better
Students get started as freelance magazine article writers by conceiving article ideas, interviewing, researching, and writing. The course provides instruction in adjusting style and slant to reach potential readers. Students learn to sharpen writing, resolve clarity problems, and add vigor to writing. The course analyzes freelance markets. Students submit work for publication.

JRN 02314: Photojournalism 3 s.h.
Prerequisites: 45 credits required
This course covers the practices and techniques used by photojournalists on modern American newspapers. Students take digital photographs and edit in Photoshop. Weekly laboratory assignments are required.

JRN 02317: Publication Layout And Design 3 s.h.
Prerequisites: 45 credits required
This course focuses on design, layout, and make-up of brochures, magazine and newspaper pages, newsletters, fliers, and advertisements. Students will learn how to coordinate art and typography with content. A workshop approach is used to show students how creativity in design can increase the effectiveness of communication. Students learn how to work with various computer applications to achieve effective layout.

JRN 02321: Online Journalism I 3 s.h.
Prerequisite(s): JRN 02205 or RTF 03295 or PR 06301
This course examines the online news landscape. Students learn which principles of traditional journalism can and should be applied to writing online news, and which should not. Students explore how to write news in ways that leverage the unique aspects of the online environment.

JRN 02332: The Publishing Industry 3 s.h.
Prerequisites: 75 credits required
The Publishing Industry examines the business and practice of publishing through broad readings and research related to industry operations and trends, field trips, guest speakers, interactive projects, and directed discussion. Students explore publishing aspects of books, magazines, newspapers, online material, blogging, podcasting, self-publishing, and editing. When students complete this course, they will have a better idea of the career path they would like to pursue.

JRN 02335: Media Law 3 s.h.
Prerequisites: 45 credits required
This course examines laws that deal with the legal responsibilities of print, broadcast, online and film media as well as public relations and advertising practitioners. Students analyze topics such as libel, privacy, broadcast regulations, and copyright.

MAWR 02510: Writing For Broadcast 3 s.h.
This course teaches students how to write scripts and script segments for radio, TV and documentary film. Exercises include use of broadcast style, writing for audio and video, dialogue, narrative, attribution, and structure. The goals of this class are to expose students to techniques common in all news and documentary writing and to integrate the use of cameras and microphones with the spoken word.

BLED 40505: Issues And Innovations In Foreign Language Education 3 s.h.
This course is designed for educators responsible for planning and supervising the foreign language curriculum K-12. The course deals with the issues of sequential curriculum development in foreign languages in keeping with state and national standards. Emphasis is placed on innovations resulting from implications of research in second language acquisition, the interrelationship of language and culture and models for foreign language curriculum development. Topics include modes of communication, aspects of culture, scope and sequence of content, and curriculum evaluation.

BLED 40510: Issues Of Language And Cultural Diversity In ESL/Bilingual Programs 3 s.h.
This course focuses on foundational theories and areas of research related to the field of TESOL and bilingual education. Special emphasis is placed on the forces affecting students and policies related to second language schooling in state, national and international contexts. Students will develop a reflective philosophy for educating English Language learners.

BLED 40512: Linguistics And Second Language Acquisition For Teaching Languages 3 s.h.
This course addresses basic concepts of linguistic theory and second language acquisition research. Students will compare and contrast second language acquisition pradigms and investigate their applicability to the classroom. Discussion will also focus on components of the language system in the context of second language teaching.

BLED 40515: Language, Culture And Communication 3 s.h.
In this course students examine the experiences and identities of English Language Learners, focusing on culture, socioeconomic status, race, religion, national origin, disabillity and gender. Special issues related to immigration and the forms of discrimination that ELL students encounter are also addressed. Students also discuss advocacy issues as well as ways to support partnerships with families and communities.

BLED 40517: Modern Developments In ESL/Bilingual Education 3 s.h.
This course examines the implications of current theoretical positions regarding second language acquisition for program development and instruction. The course deals with a range of methodologies, the selection of content, instructional techniques, the selection and use of materials, and the development of alternative assessment measures.

BLED 40520: Planning, Teaching, And Assessment In ESL Classrooms 3 s.h.
Corequisite: BLED 40523
This course concentrates on how teachers plan, teach, and assess in ESL classes. Students will create unit plans that incorporate both language and content area objectives and learn a variety of research-based instructional methods to support language acquisition and student learning.

BLED 40521: Teaching Bilingual/Bicultural Education: Process And Practice 3 s.h.
The course examines current programs and available materials in bilingual education appropriate to a range of content areas and grade levels. Microteaching and peer coaching are practiced to provide a basis for reflective teaching. The course is open to candidates who possess or are eligible for a standard or provisional New Jersey instructional certificate. State-approved examinations in oral and written English and the target language are required for certification.

BLED 40522: Integrating Language And Content In The ESL/Bilingual Education Classroom 3 s.h.
This course examines the theory and practice of integrating language and content in K-12 ESL, bilingual and content-area classrooms. Specific focus is given to methods pertaining to implementing sheltered instruction modles, content-based ESL, students' proficiency levels, proficiency testing, and strategies for collaborating with other teachers and school leaders.

BLED 40523: Practicum In Teaching English As A Second Language 1 s.h.
Corequisite: BLED 40520
This course is offered as a co-requisite to Teaching ESL: Process and Practice (BLED 40.520). The course will consist of a field experience in teaching English as a Second Language (ESL) and an accompanying class that focuses on reflective evaluation of that field experience. Candidates currently teaching English language learners will use their own classes for the field experience. Candidates not currently teaching English language learners will be assisted in placement for the field experience.

BLED 40524: Clinical Internship In English As A Second Language 6 s.h.
Prerequisites: BLED 40510 AND BLED 40512 ANDBLED 40515 AND BLED 40520 AND BLED 40523AND BLED 40522 (40522 may be taken concurrently)
This field-based course provides the teacher education candidate with opportunities to demonstrate the subject content, professional knowledge, pedagogical skills, and dispositions that are developed in program course work. The Clinical Internship experience is a supervised, full-time activity conducted in a public elementary, middle or high school ESL classroom. Successful completion of the Internship requires demonstrated mastery of subject area content, lesson planning, and multiple instructional strategies to meet varied student needs; demonstrated ability to assess learner progress and modify instruction accordingly, ability to manage all aspects of classroom activity, ability to work collaboratively with all instructional, administrative, parental, and community members of the classroom and school community, and ability to document evidence of doing all of the above. Admission to this course requires completion of all previous Teaching ESL coursework, including a minimum program grade point average of 3.0.

EDUC 01270: Teaching In Learning Communities I 3 s.h.
prerequisites:
This course for teacher candidates in undergraduate teacher certification programs provides an introduction to the elements of successful, caring learning communities and will serve as a foundation for Teaching in Learning Communities II and future education courses. Teacher candidates will learn about, observe, participate in, and reflect on various aspects of learning communities and types of collaborative teaching and learning. They will begin their understanding of the interactions between and among curriculum, planning, instructional approaches, assessment, culture, diversity, and management within a learning community environment. Field visits will provide the opportunity for teacher candidates to begin to make the connection between the content of the course and its application in elementary classrooms.

EDUC 01272: Teaching In Learning Communities II 3 s.h.
Prerequisite: C- or better in EDUC 01270
This course provides in-depth examination and practice of instructional planning and assessment in a caring learning community. Candidates study viable learning community approaches where content-rich, research-based, and culturally responsive teaching and democratic and inclusive practices are used in caring learning environments. Candidates develop skills in objective, lesson, unit, and assessment design. Field component is required.

FNDS 21150: History Of American Education 3 s.h.
This course provides an in-depth study of American education from 1600 to the present, covering preschool through post-secondary education. It focuses on the social forces, sources of conflict, major educational figures and patterns of schooling during each period. In addition, the course will highlight the ways in which diversity has been accommodated, marginalized, or rejected in American education. Students will be able to identify and discuss ways in which diversity has been accommodated, marginalized, or rejected in American education.

LIBR 01502: Survey Of Children's Literature 3 s.h.
The course surveys literature for children from birth to age 14, including genre study, major authors and illustrators, current trends in publishing, issues in criticism, electronic resources related to children's literature, methods of promoting reading, teaching children's literature to children, and using multicultural children's literature in classrooms and libraries.

LIBR 01503: Survey Of Young Adult Literature 3 s.h.
Students will consider the reading and media interests of young people ages 12-18 in view of current information about adolescence in the United States. Topics covered include major genres, authors, literary qualities, criticism and reviewing, awards, selection principles, censorship, and promotional techniques for classrooms and libraries.

LIBR 01505: Reference Resources And Services I 3 s.h.
Students focus on the provision of reference services as well as the evaluation and use of reference sources in schools and libraries. Topics covered include characteristics and use of information sources and systems, policies and procedures, basic reference sources in both print and electronic formats, and skills and attitudes needed to assist diverse individuals in meeting their information needs.

LIBR 01506: Foundations Of Librarianship 3 s.h.
This course introduces the field of librarianship and is the first course students should take in the program. Includes: the roles of libraries and librarians in society, the history of libraries and communications, models of library service, professional ethics, and contemporary issues in school and public libraries.

LIBR 01507: Managing Library Programs 3 s.h.
The management of school and public library services is the focus of this course. Students learn and apply principles of library organization, personnel administration, budgeting and finance, facilities and equipment, public relations, policies and procedures, accountability and evaluation.

LIBR 01510: Library Collections And Resources 3 s.h.
The course focus is on issues, practices, and policies in the selection of print, nonprint, and electronic resources in school and public libraries. Emphases include: intellectual freedom, effective communication through policies, technology applications, bibliographic aids and review practices, and collection evaluation and maintenance.

LIBR 01511: Organization Of Library Resources 3 s.h.
The course studies the library's responsibility to provide physical and intellectual access to print, nonprint, and electronic resources. Topics include: cataloging and classifying resources according to national standards; use of current technology resources; evaluating commercial and network sources; and understanding of theories and issues related to the organization of knowledge.

LIBR 01516: School Media Centers For Teaching And Learning 3 s.h.
Focus is on the relationship of the library media program to the school curriculum with emphasis on library/media, information, and computer skills in the pre-K-12 instructional program. Students observe library media services in school settings.

LIBR 01521: Design And Production Of Educational Media 3 s.h.
Focus is on new and emerging electronic technologies in libraries and media centers. Students use a variety of software to create such products as databases, library web pages, spreadsheets, presentations, and curriculum and public relations products. The course includes video technology, Internet searching, copyright and equity issues, and reflective writing.

LIBR 01530: Library Technology 3 s.h.
Focuses on planning for school and library technology, funding for technology, system selection, and current issues in school and library media technology. Study of the role of the library staff in the creation of information and its flow to users.

LIBR 01570: Selected Topics In Librarianship 1 to 6 s.h.
Designed for in-service school media specialists and public librarians, this course focuses on specific topics or issues affecting the profession and permits students to explore emerging thinking in the field. Topics vary each time the course is taught.

LIBR 01580: Practicum In Library Services 1 to 3 s.h.
Focus is on observation and participation in important aspects of library operations, including selection and organization of materials; reference and bibliographic services; curriculum development; and techniques of teaching library media use. This course must be pursued at an approved site under the supervision of an appropriately certified school or public librarian and a college supervisor.

LIBR 01601: Graduate Thesis In Library Services II 3 s.h.
Completion of the research project selected in Graduate Thesis in Library Services I.

READ 30120: Literacies In Today's World 3 s.h.
This course will provide students with historical and cultural perspective of how and why people acquire and use literacy to meet personal and societal needs. By viewing literacy through different lenses students will acquire an understanding of the interrelationship of language, thought, and social practice.

READ 30280: Teaching Literacy 3 s.h.
A basic understanding of the reading process and its relationship to the other language arts is the focus of this course. Topics pertaining to reading/writing instruction in grades K-12, ranging from emergent literacy to comprehension of narrative and expository discourse are covered. There is an emphasis on strategies for developing phonemic awareness, word recognition skills, fluency, vocabulary, and comprehension through various instructional settings and across all curricular areas. The importance of literature-enrichment activities and making curricular connections is highlighted. Field component is required.

READ 30319: Teaching Reading And Writing In The Content Area 3 s.h.
This course helps students integrate reading and writing methods and strategies into subject matter instruction in grades K-12 ranging from emergent literacy to comprehension of narrative and expository text. There is an emphasis on strategies for developing phonemic awareness, word recognition skills, fluency, vocabulary, and comprehension through various instructional settings as well as integrating writing to learn strategies. Students acquire understanding for assessing pupil abilities, selecting suitable materials and fostering language, comprehension, and study skills needed for mastery of academic subjects. The importance of literature-enrichment acitivities and making curricular connections is highlighted.

READ 30320: Language Development, Emergent Literacy, And Reading In Young Children 4 s.h.
Corequisites: ECED 23320 Prerequisites: ECED 23221
Students will gain an understanding of five phases of Literacy: Awareness and Exploration; Experimental Reading and Writing; Early Reading and Writing; Transitional Reading and Writing; Independent Reading and Writing. Students will learn how to integrate literacy across all curricula in the forms of reading, writing speaking, listening, and viewing. They will be able to identify, assess, adapt and implement a variety of strategies that take into account children with special needs. Further, students will be able to recognize the impact of cultural, linguistic, and other diversities that affect engagement in literacy learning and they will be able to identify and utilize effective teaching strategies that address these differences. This course also requires a weekly field experience in a pre-school setting.

READ 30347: Phonics And Spelling Instruction 3 s.h.
Prerequisites: READ 30280 or REED 30280
This course prepares prospective teachers to blend evidence-based phonemic awareness, phonics, word identification, and spelling instruction strategically into an integrated language arts approach to teaching literacy. Major topics include the development of children's phonic/spelling knowledge; what teachers should know about language; informal techniques to assess children's early literacy, word identification, and spelling understandings; systematic and meaningfully applied instruction to meet development, cultural, and linguistic differences; and communicating with parents and professionals about phonics and/or spelling.

READ 30350: Using Children's Literature In The Reading/Writing Classroom 3 s.h.
Prerequisites: REED 30280 or READ 30280
This course prepares prospective teachers to integrate reading and writing in a language arts program through the use of book selections that reflect quality writing in the genres typically found in children's literature. The course will provide students with sufficient background and knowledge in children's literature so that they may teach reading by using trade books, emphasizing process writing and developing thematic units. Language, literacy, and learning will be enhanced by integrating children's literature across the curriculum.

READ 30351: Differentiated Literacy Instruction 2 s.h.
Prerequisite: READ 30280
This course prepares teacher candidates to provide differentiated literacy instruction in diverse classrooms with a wide range of developmental levels, instructional needs, interests, and backgrounds. Teacher candidates will learn how to select, administer, and analyze various assessment tools to inform instruction. Field experience is required.

READ 30421: School Reading Problems-Writing Intensive 4 s.h.
Prerequisites: COMP 01112 and READ 30347
In this course, students learn to teach struggling readers by applying their knowledge of literacy instruction learned in prerequisite coursework. They use assessments and observations to identify students' reading levels. Students are required to use on-going diagnostic teaching techniques to plan, teach, and adjust instruction according to the needs and interests of struggling learners. Process writing is used throughout. As a course requirement, students work in the Rowan Reading Clinic. Students tutor a K-12 student for 20 hours and write a final report.

READ 30451: Supervised Clinical Practice In Reading 3 s.h.
Prerequisites: READ 30421 or READ 30350
Students in this course apply diagnostic, reflective teaching procedures in order to teach struggling readers in a clinical setting. They select materials and instructional strategies that meet the specific needs of the child. Emphasis is placed on on-going, diagnostic teaching that integrates the language arts in instruction that adjusts to the needs and interests of struggling readers. Students will conduct informal reading assessments at the end of the clinic session in order to write a formal report that includes assessment data; students' strengths and needs; and recommendations to parents, classroom teachers, and future tutors for further instruction.

READ 30500: Theory and Practice in Literacy Education 3 s.h.
Prerequisite(s): READ 30510 and READ 30520
This course will examine influential theories and research that address the developmental, cognitive, motivational, literary, linguistic, sociocultural and sociopolitical foundations of reading. The course considers how leading and often competing reading theories developed over time and how seminal research has influenced scholars, practitioners and policy makers. In addition, there is emphasis on research shaping current conversations in the literacy field in which the definitions, purposes and practices of reading depend on reader characteristics (e.g., English Language Learners, economic class and gender), text factors (e.g., print vs. electronic, magazines vs. literature), and contextual considerations (e.g., in-school vs. out of school settings, local vs. federal reading policy).

READ 30510: Teaching Elementary Reading 3 s.h.

READ 30515: Teaching Reading And Writing Across The Grades 3 s.h.
Students acquire a background in current theory and practices related to emerging literacy, word identification, fluency, comprehension, study skills, and recreational reading in grades K-12. The relationships between reading and the other language arts and between reading and other subject areas are addressed. Additionally, students become familiar with various methods, materials and technology used in teaching reading, assessing reading performance, and organizing and managing a reading program in the K-12 classroom. This course is required for those seeking the M.A. in reading education and/or reading specialist certification. Teachers and administrators who wish to increase their knowledge in the K-12 reading curriculum and instruction may also enroll.

READ 30520: Content Area Literacy 3 s.h.
This course is designed for reading and non-reading majors interested in increasing knowledge and skills in teaching reading in the content areas. It is a required course for those seeking an M.A. in reading. Instruction is provided in the developmental aspects of reading with little emphasis on corrective or remedial practices. The content of the course may be oriented toward the subject matter areas represented by the students enrolled in the course. Special emphasis is also given to developing vocabulary, comprehension, and study skills as well as to assessing pupil ability to read content material and to select suitable materials for instruction.

READ 30530: Teaching Reading To Exceptional Children 3 s.h.
The primary purpose of the course is to present the philosophy of teaching reading to exceptional children along with the appropriate methods and materials. Major topics include the nature and needs of children who deviate from normal assessment of reading ability, emerging literacy, the role of parents and the child study team, intervention strategies, settings for instruction, word recognition, comprehension and study skill techniques appropriate for exceptional learners, adaptations of methods and materials, and organizational patterns. This course may not be offered annually.

READ 30535: Word Study: Phonics, Spelling, And Vocabulary Instruction 3 s.h.
This course develops understandings for teaching phonics, spelling, and vocabulary in integrated language arts classrooms. The importance of knowing what to teach and when is emphasized. Major topics include: the development of word knowledge from emergent literacy to adulthood, strategies for instruction, the role of assessment, and parental involvement.

READ 30540: Administration And Supervision Of School Reading Programs 3 s.h.
Prerequisites: READ 30515 and READ 30520 andREAD 30535, with minimum grade of B in each.
The purpose of this course is to examine the role of the reading specialist in planning, developing, supervising, and evaluating reading programs at all levels. Major topics include reading program budget planning, components of an overall reading program, subsystems, special provisions, evaluating teacher performance, planning and conducting in-service workshops, organizational patterns, planning and preparing district materials, and selection and evaluation of commercial materials.

READ 30545: Using Multicultural Literature In The K-12 Reading And Writing Classroom 3 s.h.
This course will focus on reading and actively engaging with a wide variety of multicultural texts for children and adolescents. Multicultural literature will be broadly defined to include an examination of difference that looks closely at those traditionally absent or marginalized in texts for young readers. Course readings will emphasize issues of selection versus censorship and the ability of multicultural literature to provide enjoyment while allowing for the development of cultural awareness/sensitivity.

READ 30547: Teaching Literacy to English Language Learners 3 s.h.
Prerequisite(s): None
This course with strong research base and specific instructional strategies, covers the essential topics of first and second language axcquisition, oral language development, writing, reading, vocabulary, and reading and writing across the curriculum. Educators need to understand K-12 English language learners' literacy and language acquisition as well as instructional practices, approaches, and methods that address different cultural and linguistic backgrounds.

READ 30550: Diagnosis Of Remedial Reading Problems 3 s.h.
Prerequisites: READ 30515 and READ 30520 andREAD 30535 with a minimum grade of B in each.
Students in this course will become aware of the factors which influence reading achievement. They will learn to administer standardized and informal tests to individuals as well as to small groups. Furthermore, they will recognize the need to modify some procedures for exceptional learners. Throughout the course, the importance of on-going assessment will be emphasized. Finally, strategies for interpreting and reporting test results will be delineated. As a course requirement, students will administer selected tests to a student and summarize the results in a report.

READ 30552: Selected Topics In Reading 3 s.h.
Such areas as the following are explored: methods and materials for teaching reading and determining reading levels; influencing factors in reading disability; and differences in teaching varied types of children. Demonstrations, hands-on experiences and group work are involved. May not be offered annually.

READ 30557: 21st Century Literacies in Today's Schools 3 s.h.
Prerequisite(s): READ 30500 and READ 30545 and READ 30535 and READ 30530 and READ 30611 and READ 30552 and READ 30547
This course addresses newly defined literacies in the technological world. Candidates will examine a range of theoretical, methodological and practical approaches to indentifying and understanding new literacies. They will understand that the demands of 21st-century literacy are more complex and more challenging that earlier periods in history. The course has as its focus communication and collaboration both within and outside the course and across various platforms (e.g., blogs, word press, twitter). Candidates first actively engage in using digital tools themselves, ultimately exploring possibilities with their students in their individual contexts.

READ 30560: Corrections Of Remedial Reading Problems 3 s.h.
Prerequisite: READ 30550 with minimum grade of B
Students in this course become aware of factors that are considered when planning instruction for readers experiencing difficulty. In planning lessons students design and adapt instructional materials, develop computer-based teaching strategies, and implement instructional procedures in an integrated language arts perspective. The course instructor supervises students as they use diagnostic teaching strategies to instruct remedial readers in field-based settings.

READ 30566: Researching Classroom Practice 3 s.h.
This course will provide opportunities for students to read and analyze various types of research for the purposes of improving practice. Students will focus on action research by designing a project that includes selecting the issue, determining the data to be collected, data analysis and interpretation, and change of teaching and learning behavior.

READ 30570: Clinical Experiences In Reading 6 s.h.
Prerequisite: READ 30560 or REED 30560
Students plan and execute reading lessons for groups of remedial readers. They integrate the results of testing, observation and the assessment of reading-related factors in order to devise appropriate sequences of corrective instruction. Students select and use varied teaching strategies, including remedial techniques in order to adjust to the individual needs of their pupils. Following weekly observations, students discuss their performance with the instructor. During the seminar portion of the class, students learn to administer, interpret and evaluate diagnostic instruments. They are taught to use corrective procedures which integrate the language arts and utilize computers.

READ 30600: Seminar And Research In Reading 3 s.h.
The most commonly used techniques employed in educational research are studied. Guided reading and discussion of research articles in reading education are provided. Research studies are analyzed and critiqued with special attention given to the methodology of the studies. Enrollment is limited to matriculated graduate students with permission of the graduate advisor.

READ 30610: INTERNSHIP-READING 6 s.h.

READ 30611: Literacy Assessment 3 s.h.
Prerequisite(s): None
This course is an examination of various types of literacy problems and the techniques, processes and instruments for assessing literacy. Topics include the adminstration of a variety of assessment tools and the interpretation of assessment data for selecting instructional methods, facilitating instructional decisions, monitoring students performance, and providing intervention based on informed assessment.

SECD 03350: Teaching Students Of Linguistic And Cultural Diversity 1 s.h.
Corequisites: ECED 23446 and ECED 23447 or ELEM 02445 and ELEM 02448 or SECD 03435 and SECD 03436
The issues of inclusion form an integral part of a teacher preparation program. The schooling of all children demands that diversity in multiple forms be addressed in the inclusive classroom, including cultural and linguistic diversity. Knowledge about diversities and the performance of appropriate instructional strategies are emphasized in this course, and attention is directed to the sensitivity needed to assist the learning of students of linguistic and cultural diversity.

SMED 60550: Schools & Society: Foundations for Secondary Teaching 3 s.h.
This introductory course addresses a number of foundational questions in the field of education, including: Who goes to school and for what purposes? What is taught and who decides? How are schools organized and who funds then? How are schools different now than they were 100 years ago? What legel precedents and reform movements have shaped education today? How are schools in the United States similar to and different from those abroad? In addition to reading and discussing wiorks by seminal schools in the field of education, students will also be required to engage in a field-based service-learning project in order to build a bridge between theory and practice. Students are expected to spend 3 hours/week in the field engaged in their project. Placements will be facilitated by the Office of Field Experiences.

SMED 60552: Teaching Content in Diverse Classrooms 3 s.h.
Prerequisites: SMED 60.550
This course will enable Subject Mattere Education candidates to gain a multifaceted understanding of the individual and institutional elements that impact student achievement and schooling experience. Candidated will investigate the roles the genger, SES, race, ethnicity, home language, religion, and other indentity-based aspects shape school experiences, learning, and achievement. Candidates will then learn about specific approaches and instructional practices that they can use in the classroom to promote learning for culturally and linguistically diverse students, including teaching acadeemic language, differentiating instruction and assessments, and supporting home, community and school partnership.

SMED 60553: Creating Supportive Middle and High School Learning Environments 3 s.h.
Prerequisites: SMED 60.550
This course will enable Subject Matter Education teacher candidates to gain an understanding to the effect of the learning environment on student achievement. Candidates will learn strategies for creating and maintaining a positive learning environment in which all learners can achieve their potential. This course will focus on student-centered instructions that promotes civil discourse and strategies to address non-engagement.

SMED 60560: Curriculum, Instruction & Assessment I 3 s.h.
Prerequisite: SMED 60.553 and Co-requisite: SMED 60.562
The first of two subject-specific methods courses, this class is designed for teacher candidates majoring in English, the social studies, or a wold language and planning careers as P-12 teachers. In conjunction with a co-requisited residency, this course includes both campus and public school-based experiences dealing with a range of topics necessary to build a functioning learning community, including: subject-specific pedagogy, lesson and unit planning, classroom management, and attention to learning among the diverse populations who attend New Jersey Schools.

SMED 60562: RESIDENCY I 3 s.h.
Prerequisite: SMED 60.553; Co-requisite SMED 60.560
This course serves as the first semester of the yearlong residency required for MST Subject Matter Education teacher candidates. Each resident isi placed in a middle or high school classroom and attends that placement 3 full days per week during the Fall semester. Using both Rowan and placement school district measures of teaching effectiveness, supervisors will evaluate residents on demonstrated mastery of subject area content, lesson planning, and multiple instructional strategies to meet varied student needs and demonstrated ability to assess learner progress and modify instruction accordingly, manage all aspects of classroom activity, andn work collaboratively with all instructional, administrative, parental, and community members of the classroom and school community.

CJ 05523: Sentencing: Philosophy and Policy 3 s.h.
This graduate level course introduces the student to the broad range of topics inherent within criminal justice sentencing. The course covers the major theories of sentencing, including: retribution, deterrence, incapacitation and rehabilitation. We delve into the philosophy of each major form and examine the moral, ethical and practical limitations and advantages of each. Students examine theoretical and empirical writings and are expected to write a major paper based on a relevant sentencing issue. The course also examines sentencing policy in the United States, and in other countries, with particular attention paid to the intended and unitended consequences of major sentencing initiatives such as: guidelines, recidivist statutes, mandatory penalties and other current sentencing policies.

CJ 09510: Contemporary Issues In Criminal Justice 3 s.h.
This is a graduate level course focusing on understanding the criminal justice system both in terms of the uniqueness of each component (law enforcement, courts, and corrections) and in terms of the complementary nature of the whole, advances and emerging issues in each component of the criminal justice system and in the system as a whole, research related to contemporary issues and the practical applications of said research, and a critical assessment of both the research in the field and the issues facing the criminal justice system.

CJ 09511: Research Methods I 3 s.h.
This is a graduate level course focusing on understanding various research methods used in criminal justice, the advantages and disadvantages of different research methods (including the appropriateness for hypothesis testing), techniques for conducing research utilizing the appropriate method(s) given a particular question, the ability to critically assess research studies in the field, and the ability to conduct research for a Master's Thesis.

CJ 09512: Research Methods II 3 s.h.
This course will enable students to understand various statistics and statistical techniques used in criminal justice, to understand the advantages and disadvantages of different statistics, to be able to conduct research utilizing the appropriate statistic given a particular question and/or set of data, to be able to critically assess research studies in the field, and to be able to conduct research for a Master's Thesis.

CJ 09515: Law And Society 3 s.h.
This course will allow students to understand the basic process for law formation and the obvious and hidden influences on the creation of American law; to understand the role of laws in American society, in part as a reflection of needs, in part as a reflection of public/political desires, and in part as tools of the powerful; to understand how the complexities in law and its relationship to society impact on other aspects of the criminal justice system; and to be able to critically assess the formation of law, the interpretation of law, and the application of law in American socity.

CJ 09516: Administrative Law/Ethics 3 s.h.
This course focuses on the relevance of administrative law and ethics as they relate to the decision making process in criminal justice. Administrative actions and ethical issues permeate the criminal justice system. As such, students will be exposed to Administrative Law, including discussion of key principles of Administrative Law, limiting doctrines, and particular agency rules. Students will also spend time studying ethics. Discussions may include police corruption, prosecutorial misconduct, ethical issues in sentencing, prison corruption, and ethics in the creation and implementation of crime control policy.

CJ 09517: Criminal Justice Policy Analysis 3 s.h.
This course will enable students to understand the importance of program and policy evaluation, to understand how to evaluate programs and policies with several outcome measures, to be aware of the effectiveness of current criminal justice policies and procedures, and to be able to evaluate a current criminal justice policy or procedure using primary or secondary data.

CJ 09518: Contemporary Developments In Theory 3 s.h.
This course will allow students to understand the modern development of criminal justice theory, to understand current approaches in theory, including strengths and weaknesses of various theoretical perspectives, to be able to conduct research guided by theory, and to be able to critically assess research studies in the field.

CJ 09519: Seminar In Criminal Justice Planning 3 s.h.
This course focuses on the techniques of program and policy planning and evaluation. Students will focus on existing criminal justice programs and policies while at the same time learning the process of proper program and policy evaluation. Specifically, students will learn how to plan change through a series of steps: problem analysis, creating time-bound and measurable goals and objectives, designing a program or policy, developing action plans, developing a monitoring plan, developing an evaluation plan and instrument and finally how to initiate the program or policy. Where appropriate, students will conduct their analysis on existing and policies as well as creating their own plans as outlined above.

CJ 09520: Courts And Supportive Agencies 3 s.h.
This course deals with cases that come from both juvenile and adult courts and which often result in referrals to supportive social agencies. Included are an analysis of the services provided by supportive agencies, such as foster home services, substance abuse services or anger management services, as well as witness decorum while providing reports to a court, such as presentence investigation reports.

CJ 09521: Prevention And Rehabilitation 3 s.h.
This graduate seminar will include in-depth study of the theory and research on the causes of criminal behavior; the legal, ethical, and practical issues involved in working with offenders; and classification and treatment in the correctional context. Students will become familiar with the most widely used and effective correctional treatment approaches and empirical research evaluating programs and policies.

CJ 09522: Seminar In Violence 3 s.h.
This graduate seminar will include an in-depth study of current theory and research on the biological, psychological, and sociological causes of violent behavior. It will examine the various types of violent offenses and the impact of these crimes. Students will learn to critically assess the empirical research on the causes and impact of violence, and understand the practical applications of this research.

CJ 09523: White-Collar Crime 3 s.h.
This graduate course will include an in-depth study of white-collar crime. White-collar crime has generally been a neglected topic in criminology and criminal justice, but it has gained more prominence as scholars recognized the costs associated with white-collar crime and the importance of studying it for prevention purposes. The course will cover a range of topics from the definitional issues and the problems involved in measuring and collecting data on white-collar crime to theoretical explanations and the prevention of white-collar crime. Students will learn to critically assess significant research concerning white-collar crime and understand the practical applications of this research. This course will not be offered every semester.

CJ 09524: Police And Society 3 s.h.
This course will focus on the theories and scholarly studies in policing and apply this knowledge to understanding police functions in society. The objectives of this course are to understand the police function both in terms of its nature and its relationship with society, to appreciate advances and emerging theories in policing, and to assess current research in the field and its implications for the police profession. Students are expected to follow the scientific research process to do research, write papers, and have informed discussion of current police policies and practices.

CJ 09525: Altruism, Cooperation, And Criminal Justice 3 s.h.
This course examines the philosophical and empirical data of altruism and cooperation and relates these fields to the study of criminal justice organizations. Specifically, we examine whether it is necessary to "be nice" to work in the criminal justice field. We further examine whether those that are more cooperative and altruistic perform their jobs more effectively and how relationships between client and worker, and worker and supervisor are influenced by altruistic and cooperative tendencies of the individuals. Finally, students will collect, analyze, and summarize original data testing the hypotheses offered within the course.

CJ 09526: Management Of Criminal Justice Organizations 3 s.h.
The course focuses on diagnosing criminal justice organizations based on their: structure, purpose, leadership styles, rewards and motivations, relationships and communication theories, decision-making processes, goals and objectives. Students learn how to assess the effectiveness of various criminal justice agencies based on the aforementioned concepts and will also learn how to integrate planned change to a criminal justice organization. Criminal justice organizations exist in different political and legal environments than private, for-profit institutions and students learn how to assess these differences and gain an understanding of how criminal justice organizations work at the organizational and individual level.

CJ 09527: Gender & Crime 3 s.h.
This graduate course will include an in-depth study of gender issues in criminal justice system. The class will start with a historical view of female criminality and then examine the empirical reality of female offending. Discussions will cover theoretical explanations for female offending and the processing of female offenders throughout the criminal justice system, from arrest to parole. Students will also learn about females as victims of crime and their experiences with criminal justice system. Further, the class will explore the issues faced by female professionals employed within the criminal justice system. Students will also learn how to critically assess the current information on female offenders and victims in order to determine the best way to address their needs and issues.

CJ 09528: Seminar In Juvenile Justice And Delinquency 3 s.h.
This course will examine the biological, psychological, and sociological factors that increase the risk of juvenile delinquency, and how the justice system has reacted to crime committed by young people. Topics such as early intervention, protective factors, diversion, gangs, research based rehabilitation programs, and transfer to adult court will be examined. Students also will learn to critically assess and design evaluations of prevention and rehabilitation programs designed for juveniles.

CJ 09529: Community Justice 3 s.h.
This course will examine how the community can work with police, courts, and correctional agencies to prevent crime and rehabilitate and reintegrate offenders. It will examine the effect on implementing community programs of the organizational environment and effective recruitment, screening, and training of community members. Techniques such as participatory management, collaboration, problem solving, and mediation will be examined. Students also will learn to critically assess and design evaluations of community programs.

CJ 09530: International Criminal Law Seminar 3 s.h.
This graduate course will include an in-depth study of international crimes and the international criminal process. It will examine the various types of international criminal offences, the impact they have on the international community, and the international legal consequence for such crimes. Students will learn to critically analyze historical international cases and understand case precedents and their future impact on international criminal law.

CJ 09532: Race, Ethnicity, Class & Justice 3 s.h.
This graduate course will include an in-depth study of race, ethnicity and class, and their evolving impact upon the U.S. criminal justice system, as well as the system's impact on minorities, the poor, and their communities. A major focus of this course will be a critical examination and analysis of how race, ethnicity, and class have impacted the nature, content, and quality of justice that is rendered within the nation. One major purpose of our study is to provide students with an opportunity to gain sophisticated understanding of the inequities that minorities experience within our system of justice and in the wider community. Students will learn to critically assess significant research concerning race, ethnicity and class and the criminal justice system, and understand the practical applications of this research.

CJ 09600: INDEPENDENT STUDY 1 to 6 s.h.

CJ 09601: Master's Thesis In Criminal Justice I 3 s.h.
This course requires students to design and begin implementing their own research project to be used to satisfy the program's thesis requirement. Under the guidance of a member of the Law and Justice Department faculty who agrees to serve as Thesis Advisor, the student will develop a Research Proposal that will consist of an introduction and Statement of the Problem, a Literature Review, a Data and Methods Section, and a brief summary of the proposed research. The student will defend this Research Proposal in front of the Master's Thesis Committee, and will begin implementing the research after obtaining the Committee's approval.

CJ 09602: Master's Thesis In Criminal Justice II 3 s.h.
This course requires students to complete the research project they began in Master's Thesis in Criminal Justice I in order to satisfy the program's thesis requirement. Under the guidance of a member of the Law and Justice Department faculty who has agreed to serve as Thesis Advisor, the student will collect their data or obtain secondary data, analyze the data, and write the results, discussion and conclusion, and references section. They will combine their work from Master's Thesis I and II into a completed thesis which they will present to the Master's Thesis Committee for approval.

LAWJ 05120: Introduction To Security 3 s.h.
This course presents the organization and management of the security function in industry, business, government and institutions. It also covers the protection of personnel, facilities and other assets as well as the administrative, legal and technical problems of loss prevention and control.

LAWJ 05175: Survey Of Criminal Justice 3 s.h.
This general education approved social science elective course deals with the nature of crime and criminal responsibility, and elements of social control. It also surveys the criminal justice process from original law enforcement contact through the judicial and correctional phases. It includes professional roles and opportunities in the criminal justice field.

LAWJ 05200: Introduction To Corrections 3 s.h.
This course studies the historical development of correctional practices in the handling of criminals from early to modern times. Students survey contemporary correctional organized structures and treatment processes, as well as institutional and community based programs and problems.

LAWJ 05201: Introduction To Courts 3 s.h.
This course covers the organization of both the state and federal court systems; the management and administration of those courts; the relationship of courts to the police, corrections, and community; the criminal trial process, including pre-trial and post-trial processes; and the judiciary and judicial power, including the areas of separation of powers and judicial behavior.

LAWJ 05202: American Police 3 s.h.
This course covers the philosophy and history of the police role in society. It surveys organizational forms and basic procedures of police work; police ethics and professional preparation for law enforcement; and, major police problems confronting the police today.

LAWJ 05205: Minorities, Crime And Criminal Justice 3 s.h.
In this course students critically examine the involvement of minorities with crime in the U.S. both as perpetrators and victims. Additionally, they will be afforded the opportunity to understand, critically examine, and apply significant theoretical perspectives for the study of minority criminality. They will develop an understanding of the impact of race and class within the law-making process, the content of the law, and the quality of justice afforded minorities within the American criminal justice system.

LAWJ 05210: Restorative Justice 3 s.h.
This course surveys the major theoretical and applied concepts of Restorative and Community Justice. Students will examine how the Restorative and Community Justice processes differ from the traditional, retributive criminal justice system and how Restorative Justice models attempt to benefit the victim, offender and the community. Some of the issues to be covered are: informal justice practices, reintegrative shaming, forgiveness and resentment, and the efficacy of Restorative and Community Justice initiatives. Additionally, students may have opportunities to interact with adjudicated youth from New Jersey's Restorative Justice Project.

LAWJ 05220: Victimology 3 s.h.
This course gives students insight into the "forgotten" party in a crime, the victim. The course covers victims' rights in the Justice System with specific coverage of the following: the social, economic and racial impacts of crime on victims; victims and courts; police reaction to victims; restitution; offender accountability and the dramatic increase in victims programs and services.

LAWJ 05255: Criminal Law 3 s.h.
This course offers a comprehensive review of the major common law and statutory crimes including homicide, rape and all related personal and property offenses. The students will be introduced to domestic violence offenses. Considerable attention is given to the social, moral and constitutional frameworks of the criminal law with a review of recent and standard judicial interpretations. It also offers a review of defenses and mitigation.

LAWJ 05274: Criminal Justice And Community Relations 3 s.h.
This is a broad-based course on the relationship between the community and crime and the criminal. The course covers such topical areas as police-community relationships, the culture of the inner city, human service delivery systems, the role of citizen and business groups and the criminal justice system, and the various ways in which criminal justice agencies have an obligation to the community at large.

LAWJ 05276: Parole, Probation And Community Corrections 3 s.h.
A comprehensive review of the noninstitutional response to criminal behavior, this course covers probation, parole and community corrections in depth. It includes topics like work release, education release, half-way houses, drug and alcohol centers, legal aspects of these processes and the effectiveness of these programs.

LAWJ 05285: Criminal Investigation 3 s.h.
Students study the criminal investigation process. Analysis of problems encountered in interviewing, interrogating and investigating is included. The course covers investigative techniques that may be applied to investigative problems and develops application of criminal investigation theories to the administration of justice.

LAWJ 05290: Forensic Law 3 s.h.
This class offers a comprehensive analysis of legal issues involving forensic techniques in the justice systems. This course examines the importance of admissibility, relevance and materiality as it relates to the evidence and the various experts in Forensics. The topics include bloodstain patter and trace evidence, pathology and gunshot wounds, DNA fingerprinting, micrography, postmortem determinations and case studies in Forensic Science.

LAWJ 05305: Law And Evidence 3 s.h.
This course covers the basic principles of criminal evidence, including burdens of proof, judicial notice, presumptions, testimonial privileges and hearsay; the rule of exclusion of evidence, confessions, identifications and electronic eavesdropping; and the use of physical and demonstrative evidence including fingerprints, exhibits, photographs, documents and writings, scientific evidence and the polygraph.

LAWJ 05310: Criminal Jurisprudence 3 s.h.
Students study the history and philosophy of modern criminal law. This course covers problems of contemporary jurisprudence and especially the typology of constitutional issues as it relates to due process and its requirements.

LAWJ 05312: Criminal Procedure II 3 s.h.
This course will examine the legal procedures by which the criminal justice system operates. Students will assess United States Supreme Court opinions so as to explore issues related to the Fourth, Fifth, Sixth, Eighthm, and Fourteenth Amendments to the Constitution, including pre-trial processes, speedy trial, the prosecution function, bail, the identification of suspects, the right to counsel, the adjudication process, the law of confessions and interrogation, and the privilege against compelled selp-incrimination. This course has two primary objectives. The first is to introduce students to the analysis of judicial opinions, a primary sourse of law in the American legal system. The second is to become familiar with both the fundamental doctrines of constitutional criminal procedure and the important policy issues that emanate therefrom.

LAWJ 05315: Criminal Justice And Social Conflict 3 s.h.
This course covers the major crises in our basic American institutions. Students examine the various aspects of social mobility, population explosion, social stratification, sex revolution, militarism, and the generation gap as they relate to problems of social justice in our society.

LAWJ 05320: Civil Aspects Of Law Enforcement 3 s.h.
Students undertake an analysis of those areas in civil law with which law enforcement professionals frequently encounter. Topics include family law, torts, administrative and environmental issues, property disputes, liens, business and consumer transactions.

LAWJ 05322: Drugs And Crime In America 3 s.h.
This course explores and analyzes the relationship between illegal drugs and crime and all the relevant issues and ramifications. These include, but are not limited to: national and international trafficking, control of the problem, legalization, and explanations for drug use.

LAWJ 05324: Sentencing And The Rights Of The Convicted 3 s.h.
Students explore, analyze, and critique the relevant structures, processes, and impacts of criminal sentencing and sentences. The course is designed to examine critically the relevant political, philosophical and social driving forces of change and their impacts on the system and society.

LAWJ 05325: Comparative And International Criminal Justice 3 s.h.
Prerequisites: LAWJ 05175
The course is an introduction to comparative and international criminal justice. It compares the criminal justice system in the Unit States with other national systems in the five continents and major regions of the world. Areas examined include crime, criminal law, policing, court processes, and corrections. This course also provides an introduction to the globalization of crime including terrorism, drug trafficking, human smuggling, and war crimes and the development of domestic and international efforts in fighting these crimes. The goal of this course is to help students develop comparative and international perspectives in addressing problems facing the criminal justice system.

LAWJ 05326: International Terrorism 3 s.h.
This course explores the historical development of international terrorism and provides a foundational knowledge of current terrorist groups and their tactics. Specifically, this course introduces the student to the definition, origin, and evolution of international terrorism; the roles of world-views, ideologies, mind sets, and motivations; and the different types of terrorism. Students will also study the organization, tactics, operational capabilities and threats posed by terrorist groups. Finally, the course will introduce the current status of anit- and counterterrorism efforts in the United States.

LAWJ 05330: Problems In World Justice 3 s.h.
This multidisciplinary course examines the principles of justice and their application to the criminal justice system and society at large. Additionally, a critical examination of significant issues and concerns of world justice will be offered.

LAWJ 05335: Criminal Procedure I 3 s.h.
This course will examine the legal procedures by which the criminal justice system operates. Students will assess United States Supreme Court opinions so as to explore issues related to the Fourth Amendment to the Constitution, including search and seizure of premises and persons, the arrest and detention of suspected criminals, and the remedies available for constitutional violations. This course has two primary objectives. The first is to introduce students to the analysis of judicial opinions, a primary sourse of law in the American legal system. The second is to become familiar with both the fundamental doctrines of constitutional criminal procedure and the important policy issues that emanate therefrom.

LAWJ 05337: Treatment Of The Offender 3 s.h.
This course covers the major therapeutic approaches to the correction of criminal and delinquent behavior and a review of processes and procedures of corrections and of research on the outcome of various treatment approaches. Students analyze the ethical and legal problems related to rehabilitation in a correctional setting.

LAWJ 05342: Counseling And Guidance Of The Offender 3 s.h.
A survey of basic principles and techniques of counseling of offenders, this course includes interviewing, case conferences, case histories, individual and group counseling, classification procedures, and team treatment participation.

LAWJ 05346: Women, Crime And Criminal Justice 3 s.h.
This course covers the many facets of women, crime and criminal justice, including past and present trends of female crime along with its relationship to the three major components of the criminal justice system: police, courts and corrections. Furthermore, this course addresses gender as a significant variable in all aspects of society, both criminal and non-criminal.

LAWJ 05356: Criminal Justice Internship I 3 to 6 s.h.
Prerequisites: COMP 01112 or HONR 01112
This course provides practical immersion in a criminal justice-related agency for pre-service students; this course will for in-service students (law enforcement, courts and corrections personnel) involve placement in a social service related agency, or a research paper. A criminal justice related cooperative education experience may be substituted for the internship. In unusual circumstances other coursework may be substituted for the internship; this requires the approval of the department chair. (Implemented Spring 2004)

LAWJ 05361: Introduction To Juvenile Justice 3 s.h.
This course covers the history and philosophy of the juvenile justice system, which includes the development of the system through the 19th and 20th centuries and the decisions rendered by the United States Supreme Court. The student also scrutinize the various steps in the police, courts and corrections stages of the juvenile justice system.

LAWJ 05369: Theories Of Crime And Criminality 3 s.h.
In this course students explore the extent of crime and delinquency in the United States and the full range of relevant theories of causation. They also synthesize and apply appropriate theories to such concepts and topics as race, social class, gangs, drugs, family, schools, and neighborhoods.

LAWJ 05379: The "Political Prisoner" 3 s.h.
This course examines the causes and significance of the political prisoner concept on the criminal justice system generally and the U.S. prison systems specifically. The course deals with varying perceptions of different segments of the population about the existence and scope of this phenomenon in depth.

LAWJ 05380: Criminal Justice Research 3 s.h.
Prerequisites: LAWJ 05369
Students study the basic principles of research and statistics. This course undertakes a review of contemporary criminal justice research projects, emphasizing evaluation of journal studies and basic planning and writing of the research paper.

LAWJ 05392: Criminal Justice Administration 3 s.h.
This course provides upper level students with the concepts, theories, and principles of managing and administering criminal justice organizations. The content of the course is applied to police, courts, and corrections agencies and gives the student a total system approach to the subject.

LAWJ 05395: The Incarceration Experience 3 s.h.
This course focuses on the exploration of various aspects of incarcerating criminals. It includes the history of incarceration, the prisonization process, prison subcultures, violence and victimization, and the underground prison economy.

LAWJ 05401: Law And Human Rights 3 s.h.
This course reviews individual civil rights and liberties in detail with a particular emphasis on federal-state legislation on discrimination, substantive and procedural due process materials and 1st amendment problems. Specific attention is given to the role police, courts and correctional systems play in the enforcement and enhancement of such rights.

LAWJ 05415: Selected Topics In Criminal Justice 3 s.h.
This course promotes intensive research and analysis in Special Topics in Criminal Justice. Students engage in either theoretical or applied research in topics that can be mutually agreed upon between faculty and student. Topics will vary but may include female criminality, XYY theory, insanity, mental health and the justice systems, advanced security systems or radical criminology.

LAWJ 05469: Seminar In Law/Justice - Wi 3 s.h.
Prerequisites: LAWJ 05175, LAWJ 05255, LAWJ 05380, one of: LAWJ 05200, LAWJ 05201, or LAWJ 05202 and senior standing.
This seminar will cover topics relating to how law and justice are put into practice by the police, courts, and corrections system. Important issues affecting society and the criminal justice system as a whole will be examined in depth. Students will be expected to read scholarly work exploring these issues; participate in class discussions; conduct library research; write short, informal memos and a senior level research paper; present oral reports on their research; and demonstrate their understanding of assigned readings and the research reported by classmates in a final examination.

BUS 01505: MBA Supervised Internship 3 s.h.
This course requires a field experience in government, business, industry or non-profit organizations. Students complete assignments that prepare them for productive employment upon graduation. The MBA faculty member will partner with each employer and student to define and enrich the student's work experiences and to monitor and assess the learning process. This course is integral to the MBA Program and Supervised Internship credits cannot be used to substitute MBA elective credits.

BUS 01518: Integrative Managerial Skills 3 s.h.
This course serves as a keystone course for the M.B.A. program. Key skills, tools, and issues necessary for further study will be developed and extended. Course topics and techniques include information systems, financial ratios, behavioral, presentation, team building, quantitative analysis, critical thinking, written communication, legal and ethical issues, and library research including electronic data bases and internet research.

BUS 01521: Integrative M.B.A. Seminar 3 s.h.
A capstone course for the M.B.A. program, it aids students in reinforcing and integrating core courses by studying strategic audits and process analysis techniques. Student projects will use teams to analyze how organizations use people, operational management, information systems and financial measurements to achieve strategic and operational effectiveness.

BUS 01550: INDEPENDENT STUDY 1 to 4.5 s.h.

BUS 01600: Special Topics In Business Administration 3 to 6 s.h.
Students will study advanced level topics in specific disciplines as identified through participation in indepth seminars on topics to be determined by faculty in consultation with the Graduate Committee of the College of Business. Students will complete research or projects on specialized topics in various disciplines in Business Administration. Students may take each topic only once. This course may not be offered annually.

ENT 06504: Strategic Project-Based Experience 3 s.h.
This course is designed to provide strategic focused field based project learning experiences and opportunities for graduate students by affording them the opportunity to work with a wide variety of public and private organizations. The course uses a team-based approach to offer consulting advice to organizations with the goal of improving their performance. The emphasis in the course is on experiential approaches that provide a participative type of learning about the crucial issues faced by organizations. This course is interdisciplinary in nature and open to all graduate students.

ENT 06505: Entrepreneurship And Innovation 3 s.h.
Prerequisites (effective Spring 2009): ACC 03500 andMGT 06502 and MKT 09500
This course provides a broad framework for understanding the nature of entrepreneurship in multiple organizational settings. The course introduces students to the innovation and idea generation process and helps students apply an alternative way of "thinking" to assist in solving difficult issues for government, business, and the non-profit sector.

ENT 06506: Corporate Entrepreneurship And New Venture Development 3 s.h.
This course provides an overview of the potential for innovation and entrepreneurial opportunities or new ventures within a corporate environment. The course covers various aspects of corporate entrepreneurship and new venture development. Major topics include understanding the corporate entrepreneurial revolution, learning about the nature of entrepreneurship within established organizations, understanding the requirements for setting up an environment conducive to new ventures within a corporate setting, and learning about the entrepreneurial direction of firms as they grow and evolve. Among the issues discussed are application of entrepreneurship to established firms, the disparity between start-up and corporate entrepreneurship, the role of creativity within corporate entrepreneurship, the relation to product innovation and technology, the importance of corporate strategy within an entrepreneurial framework, and what it takes to create an entrepreneurial culture.

ENT 06599: Special Topics In Entrepreneurship 3 s.h.
Students will study advanced level topics in Entrepreneurship. The exact topics to be covered will change over time. Contact the MBA office or the Management and MIS Department for details.

HRM 06500: INDEPENDENT STUDY:HRM 1 to 6 s.h.

HRM 06598: Special Topics In Human Resources Management 3 s.h.
Students will study advanced level topics in Human Resources Management. The exact topics to be covered will change over time. Contact the MBA office or Management and MIS Department for details.

HRM 06605: Strategic Human Resource Management 3 s.h.
Prerequisite(s): Admission into the MBA Program or Admission into the Certificate of Advanced Graduate Study (CAGS) in Business Management
Strategic Human Resource Management consists of planned organizational activities designed to increase organizational effectiveness and equity. This course outlines the transformation of HRM from a clerical function to an important strategic partner of top management. It focuses on the ability of HRM to provide a source of competitive advantage to forward-thinking organizations.

HRM 06688: Human Resource Management In Health Promotion 3 s.h.
Prerequisite: Admission into the Master of Health Promotion Management (MHPM) program.
Human resource management consists of planned organizational activities that are designed to improve efficiency and equity. In this class, health promotion professionals will develop their capabilities as human resource managers and will enhance their appreciation of human resource management professionals who make the strategic choice to promote employee health.

MGT 01510: Professional, Legal and Managerial Responsibilities 3 s.h.
Admission into the MBA program or admission into the COGS in Business.
In that business leaders have become personally and professionally responsible for the legal and ethical behaviors of the individuals within their organizations, the need for formal training in ethical and legal decision making is essential. In this course students will learn how to effectively apply a variety of legal and ethical frameworks within the global marketplace. Students will also learn appropriate and effective legal and ethical issue reporting practices, principles and responsibilities.

MGT 06300: Organizational Behavior 3 s.h.
Prerequisite(s): Junior standing and matriculation in the Business minor or a Business major
This course examines human relations in management. The course studies the concern for both task and process in the light of structure, goals and human relationships found in organized efforts. It also covers the application of new management theories in the areas of motivation, leadership and group problem-solving by a variety of means, including simulation, case studies, and role playing.

MGT 06304: Organizational Change And Development 3 s.h.
Prerequisites: MGT 06300 or MGT 06309 orPSY 08220
This course studies factors that facilitate or inhibit organizational change as well as research findings and theory which deal with methods for diagnosing organizational climate, and selecting and utilizing techniques for bringing about change and overcoming resistance to change. It also analyzes and evaluates roles and strategies used by change agents to initiate structure and direct organizational change.

MGT 06305: Operations Management 3 s.h.
Prerequisites: STAT 02260 and (MATH 01130 or MATH 011250r MATH 01140)
This course provides a critical study of the operational functions of the business enterprise. Its topics include capital costs and investment criteria, plant location and layout, process planning and production design, job designs, work methods and cost controls.

MGT 06310: Leadership And Supervision For Managers 3 s.h.
Prerequisites: MGT 06300
The course is designed for undergraduate business students. Course content will cover the theories of business leadership and supervision- with the focus on first line supervisors. Students will focus on the theory and acquisition of various business leadership and supervisory tasks and skills necessary to work with other business managers in a global market world and to supervise workers with diverse backgrounds. These business skills will include establishing workplace goals, organizing work units for productivity, conducting interviews, giving feedback to subordinate employees, designing and implementing employee motivation programs, and supervising workteams. By the end of the course, students will be able to effectively diagnose the complex dynamics of leadership and supervision in business environments and take action as leaders and supervisors to improve individual and organization performance.

MGT 06402: Business Policy 3 s.h.
Prerequisites: CS 02334 or MIS 02334 and MGT 98242, MKT 09300, MGT 06300, MGT 06305, FIN 04300 and Senior Standing
This capstone course in business policy provides students with an opportunity to integrate what they have learned in separate business fields and use this knowledge in the analysis of complex business problems. There is an emphasis on the skills of identifying, analyzing and solving problems which are not pre-judged as being marketing problems, finance problems, etc. Students are encouraged to consider issues from the viewpoint of general management rather than as a functional specialist or researcher.

MGT 06500: Designing, Developing, And Leading High Performance Organizations 3 s.h.
Students will study and develop skills in interpersonal behavior in organizations and groups. They will learn about issues in leadership, how groups function, elements of power and influence, conflict management, management of time and stress, creative and rational problem solving in groups. In addition, they will study theories of motivation and methods of empowerment in organizations.

MGT 06501: Advanced Operations Management And Strategy 3 s.h.
Prerequisite: Admission to an MBA program
This course is designed to familiarize students with the complexities of operating a manufacturing, as well as a service, organization. The focus is primarily on gaining a competitive edge by improving functions of operations management. Concepts and tools pertaining to business forecasting, operations decision-making, resources allocation, location and capacity planning, inventory control and management, facility layouts, scheduling, project management, and quality control and management will be covered. Case studies and team projects will also be used to provide practical applications in a realistic business context.

MGT 06502: International Business And Society 3 s.h.
This course addresses numerous aspects of the increasingly global business environment and implications for business organizations and key stakeholders. Frameworks for comparing political, legal, social, economic, and governmental differences across nations are utilized. Macro issues include trade theories, trade regimes, roles of governments and global institutions. Strategies and structures adopted by various types of international firms and functional approaches to international finance, management, and marketing are also included.

MGT 06503: Organization Development 3 s.h.
Students study the application behavioral science in the management of planned organizational change and development. In addition to the analysis of issues facing the change agent, students also develop skills in implementing and intervening in the effort to improve organizational effectiveness. This course may not be offered annually.

MGT 06507: Manufacturing and Service Operations Management 3 s.h.
Prerequisite(s): Admission into the MBA program or Business COGs
This course provides an introduction to the field of manufacturing and service operations management. The course aims to familiarize students with the set of business activities whereby resources, flowing within a defined system, are combined and transformed to add value in accordance with organizational objectives. OM is one off the three major functions of any organization, and it is integrally related to all the other business functions in the context of manufacturing and services. The focus of this course is to provide the students with the tools, technologies, and processes they need to improve their oraganization's profitability and service by adhering to the ethical norms of the society.

MGT 06510: Strategic Engineering Management 3 s.h.
The course introduces engineers to the concepts and application of strategic planning specifically to the roles and responsibilities of the engineering function in the strategic planning process for high-tech firms.

MGT 06519: Leadership In Health Promotion 3 s.h.
The course is designed for graduate students in the M.A. in Wellness and Lifestyle Management program. Course content will cover the theories of leadership in health promotion and the focus of this course will be on leadership from a variety of perspectives - - health organizational leadership in the external environment, as well as leadership at the top, middle and lower levels inside organizations. Students will focus on the theory and implementation of various health leadership tasks and responsibilities including working with other leaders in a multinational world, supervising workers with diverse backgrounds. These leadership skills will include establishing workplace goals, organizing work units for productivity, conducting interviews, giving feedback to subordinate employees, designing and implementing employee motivation programs, changing organization culture, the capacity to lead globally, leading work teams and managing workforce diversity. By the end of this course, students will be able to effectively diagnose the complex dynamics of leadership in health organizational environments and take action as leaders and to improve individual and health organization performance.

MGT 06520: Global Leadership And Organization Culture 3 s.h.
The course is designed for graduate business students. Course content will cover the theories of business leadership and the focus of this course will be on leadership from a variety of perspectives--organizational leadership in the external environment, as well as leadership at the top, middle and lower levels inside organizations. Students will focus on the theory and implementation of various business leadership tasks and responsibilities including working with other leaders in a multinational world, supervising workers with diverse backgrounds. These business skills will include establishing workplace goals, organizing work units for productivity, conducting interviews, giving feedback to subordinate employees, designing and implementing employee motivation programs, changing organization culture, the capacity to lead globally, leading work teams and managing workforce diversity. By the end of the course, students will be able to effectively diagnose the complex dynamics of leadership in business environments and take action as leaders and to improve individual and organization performance.

MGT 06521: Leadership Theory and Practice 3 s.h.
Prerequisites: Graduate Standing or Permission from Instructor.
The elective course is designed for graduate in MBA Management program students. Course content will cover the theories of leadership and practice. The focus of this course will be on a leadership influence on organizational concept and practices from a variety of perspective in the external environment, as well as leadership at the top, middle, and lower levels inside organizations. Students will be able to perform analysis of the dark side of leadership, destructive patterns of leadership behavior, and multiple intelligences. Furthermore, students will be able to understand the psychology of leadership, including the role of personality, employee motivation, and dealing with difficult people, importance of ethics, empowerment of employees, managing diversity in the work culture, the theory of creating a powerful vision, helping employee through change and burnout prevention, leadership in negotiation and alliances, leading and developing teams, and understand professional performance and sustaining discipline. By the end of the course, students will be able to effectively diagnose the complex dynamics of leadership, provide execution for organizational success, use effective theory, alignment, prioritization, in organizational environments and take action as leaders to improve individual, organization performance, and profitability.

MGT 06599: Special Topics In Management 3 s.h.
Students will study advanced level topics in management. The exact topics to be covered will change over time. Contact the MBA office or Management and MIS Department for details.

MGT 06601: Strategic Planning For Operating Managers 3 s.h.
This course prepares the operating manager for the responsibilities of performing strategic planning. The course will identify what goes into and how strategic planning is performed. Strategy formation and evaluation will be assisted by computer decision models and management games. The interrelationships of organizational units and pro-active management posture with respect to environmental forces will be stressed. This course may not be offered annually.

MGT 06603: Business Processes And Improvement 3 s.h.
Prerequisite: MKT 09575
This course introduces the fundamental Lean Six Sigma principles that underlay modern continuous improvement approaches for industry, government and other organizations. Six Sigma is a quality system developed at Motorola which focuses on elimination of variation from all processses. The basic principles have been applied to a wide range of organizations and sectors to improve quality, productivity, customer satisfaction, employee satisfaction, time-to-market and financial performance. In this course, students will learn how lean, six sigma, and ERP systems improve business processes.

MGT 06629: Managing Organizational Strategy 3 s.h.
Prerequisites: Completion or Concurrent with Financial Decision Making (FIN 04500) AND Designing, Developing and Leading High Performances Organizations (MGT 06500), International Business and Society (MGT 06502), AND Marketing Management (MKT 09500) OR Permissions of Instructor.
As understanding organizations in the context of their general and competitive environments is vital, future managers must learn how to utilize the perspectives and frameworks designed for strategic analyses and decision making. In this course students will learn how to conduct analyses across organizational functions and levels and effectively manage goals and

strategies for different types of organizations.

MGT 06666: Managing Engineering Teams 3 s.h.

MGT 06677: Management Skills For Engineers 3 s.h.
Prerequisite: Admission to the Master of Engineering Management Program
Technical skills are necessary but insufficient for success in engineering management. It is also necessary for enginerring managers to be effective motivators and leaders. In this course, students will also learn optimal techniques of hiring and rewarding engineers.

MGT 07500: Managerial Decision Making Tools 3 s.h.
This course requires the application of analysis and decision making tools in a business setting, with emphasis on the evaluation of problems facing the modern firm in a changing global marketplace. It provides in-depth coverage of analytical tools that are invaluable to the entrepreneur/manager as he or she is confronted with strategy and implementation decisions in a competitive world.

MGT 07600: Business Forecasting 3 s.h.
This course is designed to acquaint the graduate student with the advanced statistical forecasting techniques. Upon completion of the course, the student should be able to identify a forecasting problem, gather data and use computerized statistical packages to obtain solutions, analyze results, determine the validity and reliability of the model, and if necessary, recommend alternative methods to solve the model. This course may not be offered annually.

MGT 07601: Six Sigma 3 s.h.
Prerequisite: MGT 07500
As an improvement methodology that reduces product waste or service failure rates to near perfection, Six Sigma utilizes a disciplined, data-driven approach. Six Sigma practitioners use data to monitor, control, and improve operational performance by eliminating and preventing defects in products and associated processes, including management, service delivery, design, production and customer satisfaction. Lean Six Sigma helps eliminate not only product defects, but six other forms of waste. This course will give a complete overview of the Six Sigma process and prepare students for its management and methodology/

MGT 98242: Legal Environment Of Business 3 s.h.
Students in this course examine the legal process and the legal environment within which business must operate, as well as the interrelationship of government and business. Students develop an understanding of the methods by which legal decisions are formulated as they affect both individual rights and business transactions.

BUS 01303: Business Practicum 3 s.h.

BUS 01401: Issues in Business: Directed Research (WI) 3 s.h.
Pre-reqs: COMP 01.111, COMP 01112, BUS 01.101COLLEGE COMP 1 & 2 AND BUSINESS PERSPECTIVESOPEN ONLY TO LIBERAL STUDIES: HUMANITIES AND SOCIAL SCIENCEMAJORS
An upper-division course for students in Liberal Studies: Humanities & Social Sciences, Sequence B Perspectives of Business, Issues in Business: Directed Research is a course that focuses on the current issues and trends in business as found in the business media. The course is designed to allow students to explore areas of personal interest through the collection of research and the presentation of such material in written and spoken formats.

MIS 02150: Integrated Business Software Tools-RS 3 s.h.
Students will expand their use of integrated software tools that include database management systems, spreadsheets, and other business applications. They will apply these tools to actual business decision-making situations by means of case studies and research projects.

MIS 02234: Management Information Systems 3 s.h.
Prerequisites: 15 earned credits required and MATH 01123 or MATH 03125 or MATH 01130 or MATH 01140 or STAT 02260 or College Level Math test with minimum score 60
Information systems are an integral part of all business activities and careers. This course is designed to introduce students to contemporary information systems and demonstrate how these systems are used throughout organizations. This course focuses on the key components of information systems - organizations, people, software, hardware, data, and telecommunications - and how these components can be integrated and managed to create competitive advantage. Students will gain hands-on experience with business software tools commonly applied to business data analysis and database management. It is expected that students entering this class have completed College Algebra or its equivalent.

MIS 02338: Design Of Database Systems 3 s.h.
Prerequisite: Junior standing
This course explores the fundamentals of designing a database for a business organization. It emphasizes the relational model; however, the course also explores the hierarchical and network models. Additionally, the course covers such topics as recovery, integrity, security, concurrency, distributed databases, data dictionaries and the role of the database administrator.

MIS 02500: Issues In Management Information Systems 3 s.h.
Prerequisites: Admission to the MBA Program oradmission to the COGS in Business oradmission to the COGS in MIS
Information technology and systems are pervasive in business today and will become more so in the future. Therefore, this course is designed to provide skills for managing this changing environment. The primary focus of the course is on the management of technology. The management of technology and systems is not left solely to information systems professionals; it is the responsibility of all managers.

MIS 02510: EXPERT SYS BUSINESS 3 s.h.

MIS 02511: ERP Systems For Management 3 s.h.
Prerequisites: Admission to MBA, COGS in MIS, or CAGS in MIS programs
Students will learn the various key business processes, the role of enterprise resource planning systems (ERPs) in integrating and supporting these processes, and the many challenges an organization faces during implementation and management of such systems. There will be hands-on computer laboratory exercises where students will gain experience in executing the key business steps and extracting meaningful information about the business processes using a well-regarded ERP software solution.

MIS 02515: Electronic Commerce 3 s.h.
Prerequisite: Admission to the MBA Program OR Admission to Certificate of Graduate Study (COGS) in MIS OR Admission to Certificate of Advanced Graduate Study (CAGS) in MIS
This course will introduce students to electronic business. It will cover such diverse issues as: e-commerce payment mechanisms, encryption and authentication of data, web assurance, electronic data interchange, legal issues on the web, and web marketing. There will also be a lab component that will provide students with exposure to and practice in web page design and creation.

MIS 02522: Systems Analysis And Design 3 s.h.
Prerequisites: Admission to the MBA Program OR Admission to Certificate of Graduate Study (COGS) in MIS OR Admission to Certificate of Advanced Graduate Study (CAGS) in MIS
This course explains the methodology and techniques in analysis and design of computer information systems. The systems analyst, the architect of information systems, is a liaison between user and programmer. The roles and responsibilities of the systems analyst are emphasized at all stages of the systems development life cycle.

MIS 02525: Project Management 3 s.h.
Prerequisites: Admission to the MBA Program OR Admission to Certificate of Graduate Study (COGS) in MIS OR Admission to Certificate of Advanced Graduate Study (CAGS) in MIS
In this course, students will learn the Project Management Body of Knowledge (PMBOK) as put forward by the professional association, the Project Management Institute (PMI). Students will not only study the various phases and documents of project management, they will also have experience creating each of the documents for a given project.

MIS 02526: Project Management For Engineers 3 s.h.
In this course, students will learn the Project Management Body of Knowledge (PMBOK) as put forward by the professional association, the Project Management Institute (PMI). Students will not only study the various phases and documents of project management, they will also have experience creating each of the documents for a given project.

MIS 02528: Business Application Design And Development 3 s.h.
Prerequisites: Admission to MBA, COGS in MIS, or CAGS in MIS programs
Students will design, create, and maintain web applications that: dynamically display content from relational and hierarchical databases, provide transaction processing from procurement to fulfillment, connect to and share internal data with supply chain partners (extranet), afford ubiquitous access to internal data via secure channels (intranet). Students will gain experience working with integrated software development tools, various programming languages, and many web-based business standards.

MIS 02538: Database Design 3 s.h.
Prerequisites: Admission to the MS in Bioinformatics, MBA, COGS in MIS, or CAGS in MIS programs
This course explores the fundamentals of designing a database. It emphasizes the relational model; however, the course also explores the hierarchical and network models. Additionally, the course covers such topics as data insertion, modification, and extraction using SQL. CASE tools and database management tools will be employed.

MIS 02599: Special Topics In Management Information Systems 3 s.h.
Prerequisites: Admission to the MBA Program OR Admission to Certificate of Graduate Study (COGS) in MIS OR Admission to Certificate of Advanced Graduate Study (CAGS) in MIS
Students will study advanced level topics in Management Information Systems. The exact topics to be covered will change over time. Contact the MBA office or the Management and MIS Department for details.

MKT 09200: Principles Of Marketing 3 s.h.
Prerequisites: COMP 01105 or COMP 01111 and 12 Credits Required
This course provides an overview of the theory and practice of marketing within a corporate and societal context in a dynamic environment. The major functions of marketing are covered from the perspective of management strategy seeking competitive advantage.

MKT 09375: Business Logistics 3 s.h.
Prerequisites: MKT 09200 and 57 Credits Required ORC918 Systems Engineering Concentration.
This course focuses on the logistics of physical distribution and supply chains. Topics include traffic routing, inventory analysis and control, warehousing, location of production and storage facilities, and transportation.

MKT 09379: International Marketing 3 s.h.
Prerequisites: MKT 09200 and 57 Credits Required
Basic marketing concepts as they relate to foreign markets are analyzed in depth in this course. Two approaches are used: the environmental approach introduces the setting in which international marketing takes place; and the managerial approach incorporates marketing strategies of firms that choose to venture abroad.

MKT 09500: Marketing Management 3 s.h.
Prerequisites: Admission to the MBA Program or COGS in Business
This course focuses on managing the marketing function in a dynamic, competitive environment in coordination with other organizational functions to enhance the overall performance of an organization. Attention will be devoted to the design of strategies for the achievement of competitive advantage in product/service offerings, pricing, promotion and distribution. Students will build upon their existing knowledge base of marketing concepts and will develop or extend competencies in analytical decision-making, ability to identify market opportunities, and ability to develop and evaluate marketing plans.

MKT 09501: Consumer Analysis 3 s.h.
Students will conduct detailed analyses of consumer and/or business markets. After examining a range of conceptual materials and research methodologies, they will apply these insights to the analysis of actual decision-making situations by means of case studies and/or independent research projects.

MKT 09502: Marketing Research 3 s.h.
Contemporary marketing decisions are based on marketing research information. This course will help students develop a managerial perspective on the use of marketing research information in making decisions, as well as specific research skills and practical experiences that will enhance their career advancement. The skills covered in this course are applicable to marketing problems encountered in both consumer and business-to-business markets. Students will experience a "project-based learning" to apply marketing research tools and methods to identify and solve specific marketing problems.

MKT 09503: Marketing Communication And Promotion 3 s.h.

MKT 09510: Foundations of Marketing 3 s.h.
Prerequisite(s): Admission into the MBA or Business COGS program
For graduate students in the MBA or Business COGS programs, this course provides a foundational overview of the theory and practice of marketing within a corporate and societal context in a dynamic environment. The major functions of marketing are covered from the perspective of management strategy seeking competitive advantage by better serving customers' needs more effectively and profitably than competitors.

MKT 09575: Introduction To Logistics And Supply Chain Management 3 s.h.
Prerequisite: Admission to graduate programs
The course is a basic introduction to the field of logistics and supply chain management, including both defense logistics and commercial supply chain management. The objective of the course is to provide students a solid awareness and understanding of the processes and functions that comprise a supply chain. The course serves as the introductory course of a three course specialization in Supply Chains and Logistical Systems in the MBA program. Moreover, students are required to complete a term project to demonstrate their understanding of logistics and supply chain issues. Case analysis and hands-on experience in this class will offer students the opportunity to broaden their horizon on the critical roles that the supply chain plays in this globalized and interdependent world.

MKT 09599: Special Topics In Marketing 3 s.h.
Prerequisites: Admission to the MBA Program
Students will study advanced-level topics in Marketing. The exact topics to be covered will change over time. Contact teh MBA office or the Marketing Department for details.

MKT 09600: International Marketing 3 s.h.
Students will examine all issues facing marketing managers in the light of the unique challenges posed by the internationalization of the economy. The cultural, economic, political, and legal environment will be examined. Market research in world markets, the planning and development of consumer and industrial products, promotion, pricing and distribution will also be analyzed. This course may not be offered annually.

MKT 09605: Competitive Advantage Through Supply Chain Management 3 s.h.
Prerequisite: MGT 09575
The course has been developed to be the capstone course for the Supply Chain and Business Systems specialization in the Master of Business Administration program. As such, the course will provide the culminating experience for graduate students in their final courses in the graduate program and will serve as a point of assessment. Utilizing the relationship between the RCOB and SAP, students will have the opportunity to utilize the SAP SD (Sales and Distribution) Module of SAP software in applications that are common in logistical systems. Students will have to complete their term projects. In addition, students will be required to participate in SAP case competition, which encourages students to comprehend, integrate and apply supply chain management concepts in the context of SAP.

SCL 01380: Global Supply Chain 3 s.h.
Prerequisites: MKT 09375
The course is designed to assist students in developing the analytical skills necessary to manage the processes and functions existent in modern global supply chains. Using the case method and recommended textbook, students will analyze realistic situations and problems confronting supply chain managers in a global setting. They will also identify solutions and develop implementation plans for their recommended solutions. Within this process, students will develop an acceptance, understanding, and appreciation of the economic, political, and cultural differences that make up a global market. Cases for analysis and discussion will include topics such as supply chain strategy, operations management, inventory management, lean systems and six sigma quality issues, and sustainability supply chain management.

MATH 01122: Precalculus Mathematics 4 s.h.
This course helps prepare students for Calculus I or Calculus T&A. The contents include: a brief review of intermediate algebra, the structure of the real number system, elementary analytic geometry, and algebraic, exponential, logarithmic and trigonometric functions (including their inverses and related functions). Graphs of functions and conic sections also are studied. A graphing calculator is required. Students are expected to have completed an equivalent of Basic Algebra II.

MATH 01130: Calculus I 4 s.h.
Prerequisite(s): Minimum C- in MATH 01122, or 60 on CLM Examor 60 on CLM re-test, or 600 on SAT, or 27 on ACT Math.
Calculus is a subject about functions. This course deals primarily with the two most fundamental concepts in Calculus: derivatives and definite integrals. It begins with a discussion of notions of the limit and continuity of a function. Then the definition of a derivative is introduced, and techniques of computing derivatives are studied. Through applications to analysis of functions, optimizations and problems in sciences, a student can appreciate the importance of the derivative. The concept of a definite integral as a limit of approximating sums emerges naturally in the context of problems of areas. Hidden links between the two concepts are formulated in the Fundamental Theorems of Calculus, which also provide a convenient shortcut for computing definite integrals. A graphing calculator is required for this course, and so is the use of computer software, such as Mathematica. Students are expected to have completed an equivalent of (Math 01122) Pre-Calculus.

MATH 01131: Calculus II 4 s.h.
Prerequisites: C- or better in MATH 01130
This course begins with applications of integration (such as volume of a solid of revolution work, arc length, area of a surface of revolution, center of mass) and derivatives of inverse trigonometric functions. Integration by parts, partial fractions and other more advanced integration techniques are introduced, along with a discussion of numerical integration, improper integrals, indeterminate form, sequences and infinite series. A graphing calculator is required for this course, and so is the use of computer software, such as Mathematica.

MATH 01205: Technological Tools For Discovering Mathematics 2 s.h.
Prerequisites: C- or better in CS 01104 and MATH 01131 and MATH 03150
This course will use mathematics-specific technologies to help students discover mathematics and to develop a better understanding of new content. Throughout the course students will become aware of the broad range of mathematics-specific technologies available to mathematicians, become proficient in the use of these, and pursue the advantages, disadvantages, and limitations of such technologies. Students will solve problems and advance their understanding of topics in the areas of pre-calculus, calculus, geometry and statistics.

MATH 01210: Linear Algebra 3 s.h.
Prerequisites: C- or better in MATH 01131 and (MATH 03150 or MATH 03160)
This course includes: linear equations and matrices, vector spaces, linear dependence and independence, dimension and basis of a vector space, linear transformations, inner product and cross product, orthogonality, eigenvalues and eigenvectors. Use of graphing calculators is required and computers may be used at the option of the instructor.

MATH 01230: Calculus III 4 s.h.
Prerequisites: C- or better in MATH 01131
This course includes: vectors, vector functions, velocity, acceleration, partial differentiation, directional derivatives, multiple integration, and vector calculus. The student is expected to use computer software, such as Mathematica, in addition to the graphing calculator.

MATH 01231: Ordinary Differential Equations 3 s.h.
Prerequisites: C- or better in both MATH 01210 and MATH 01230
Applications of ordinary differential equations and their methods of solution form the major part of this course. It also includes the solution of nth order equations, particularly of first and higher degree linear differential equations, and series and Laplace Transform solutions. Students might be asked to use computers and/or graphics calculators as an aid in solving equations.

MATH 01310: College Geometry 4 s.h.
Prerequisites: C- or better in PHIL 09130 and MATH 01210 and MATH 01230 and MATH 03150
This geometry course will use both synthetic and analytic approaches to study advanced concepts in Euclidean geometry, to introduce non-Euclidean geometry, to explore the basics of Transformational geometry and Higher Dimensional geometry, and to trace the historical development of geometry. Computer use will be emphasized throughout the course.

MATH 01330: Introduction To Real Analysis I 3 s.h.
Prerequisites: C- or better in MATH 01230 and MATH 03150
This course prepares students for more advanced courses in analysis as well as introducing rigorous mathematical thought processes. Topics included are sets, functions, the real number system, sequences, limits, continuity and derivatives.

MATH 01331: Introduction To Real Analysis II 3 s.h.
Prerequisites: C- or better in MATH 01330
This course is a continuation of Introduction to Real Analysis I. The purpose is to extend student's understanding of basic analysis and the calculus. Topics included are: the mean-value theorem, existence of the Riemann integral, Riemann-Stieltjes integration, infinite series, convergence tests and Fourier series.

MATH 01332: Numerical Analysis 3 s.h.
Prerequisites: C- or better in CS 01104 and MATH 01131 and MATH 01210
This course includes: elements of error analysis, real roots of an equation, polynomial approximation by finite difference and least square methods, interpolation, quadrature, numerical solution of ordinary differential equations, and numerical solutions of systems of linear equations. The student should expect to program a computer in addition to using a graphing calculator.

MATH 01340: Modern Algebra I 3 s.h.
Prerequisites: C- or better in MATH 03150 and MATH 01210 and PHIL 09130
This course includes: the natural numbers, integers, rationals, and reals as mathematical systems, and the introductory theory of groups, rings, integral domains, and fields. Also included are homomorphisms and isomorphisms, subgroups, kernels, rings and ideals and polynomial rings. At the option of the instructor, computer use can be required.

MATH 01341: Modern Algebra II 3 s.h.
Prerequisites: C- or better in MATH 01340
This course extends the study begun in Modern Algebra I to a more detailed investigation of abstract algebraic structures. Included are Sylow theorems, rings and ideals, polynomial rings, ring and field extension and Galois theory.

MATH 01352: Theory Of Numbers 3 s.h.
Prerequisite: C- or better in both MATH 01210 and MATH 03150 or C- or better in both MATH 01210 and MATH 03160
This course includes divisibility properties of integers, theory of congruence, Diophantine Analysis, congruences of higher degree, quadratic residues and famous problems of number theory.

MATH 01354: Introduction To Topology 3 s.h.
Prerequisites: MATH 01330
This course covers the properties of general topological spaces, separation, compactness, connectedness and the Heine-Borel and Bolzano-Weierstrass theorems.

MATH 01386: Introduction To Partial Differential Equations 3 s.h.
Prerequisites: C- or better in MATH 01231 or MATH 01236
This course is a study of partial differential equations and their applications. Topics include the derivation of the wave equation, Laplace's equation and the heat equation, Fourier series and integrals, boundary value problems, Bessel functions and Legendre Polynomials.

MATH 01410: History Of Mathematics 3 s.h.
Prerequisites: C- or better in two 300-level (or higher) Math major courses
This course includes a survey of the development of mathematical ideas from early times up to present day college mathematics. Emphasis is on historical mathematical problems and their solution. Readings and reports on selected topics are required.

MATH 01421: Mathematics Field Experience 3 s.h.
Prerequisites: MATH 01131 and STAT 02360
Students accept assigned projects in a professional environment. These projects normally involve applied mathematics or statistics. Students are expected to work at least 150 hours during the semester for which they receive credit. Written reports are required.

MATH 01430: Introduction To Complex Analysis 3 s.h.
Prerequisites: C- or better in MATH 01330
This course includes properties of complex numbers and their conjugates, functions of a complex variable, limits, continuity and derivatives for complex functions. Also included are: Integration and the Cauchy integral theorems, uniform convergence, Taylor's and Laurent's series and conformal mapping.

MATH 01498: Math Seminar (Wi) 3 s.h.
Prerequisite: C- or better in each of MATH 01231, MATH 01330, MATH 01340, and either MATH 01310 or STAT 02360
This course is designed to integrate students' knowledge of mathematics and to further develop their problem solving abilities. The course content includes problem-solving techniques, a review of the literature of mathematics, solving problems drawn from a variety of current resources, and study of techniques of proof and issues in the philosophy of mathematics and its foundation. Additionally, each student is required to write and to present orally, a research report on a mathematical topic.

MATH 01500: Foundations Of Mathematics 3 s.h.
Strategies and tools for problem solving, including computer use, will be applied to specific problems from number theory, geometry, analytic geometry, algebra, discrete mathematics, logic, and calculus.

MATH 01502: Linear Algebra And Matrix Theory 3 s.h.
This course includes linear systems, linear dependence and independence, linear transformation theory, multilinear forms, matrices, determinants, inner product spaces.

MATH 01503: Number Theory 3 s.h.
This course includes divisibility properties of integers, mathematical induction, modular congruence, linear congruences and diophantine analysis, congruences of higher degree, quadratic residues, famous problems of number theory.

MATH 01504: Introduction To Mathematical Logic 3 s.h.
This course includes intuitive set theory, relations and functions, sentential calculus, predicate calculus, mathematical systems, axiomatic theories.

MATH 01505: Probability And Mathematical Statistics 3 s.h.
This course includes probability for discrete sample spaces, probability distributions, Chebyshev's theorem, moment generating functions, continuous random variables, sampling distributions, point and interval estimation, theory of hypothesis testing, regression and correlation, introductory analysis of variance. Other than on the recommendation of the adviser, this course should not be chosen if a corresponding similar course has been part of the student's undergraduate study.

MATH 01507: Differential Geometry 3 s.h.
This course explores the application of calculus towards the study of higher-dimensional surfaces and their geometry. Topics include geodesics, tangent space, directional derivative, Riemannian metrics, isometrics, Gaussian curvature, first and second fundamental forms, Gauss-Bonnet Theorem, minimal surfaces, differential manifolds, connections, and Riemannian curvature tensors. Special topics (at the discretion of the instructor) may include Lie groups, symmetric spaces, general relativity, cohomology, and complex geometry. Students will be required to use a computer algebra system to gain geometric intuition.

MATH 01510: Real Analysis I 3 s.h.
The theoretical treatment of the foundations of calculus covering the real and complex number systems, elementary set theory, number sequences and series, topological treatment of the real line, continuity and differentiation.

MATH 01511: Real Analysis II 3 s.h.
The continuation of Real Analysis I covering Riemann-Stieltjes integration, sequences and series of function, functions of several variables, elements of measure theory and Lebesgue integration.

MATH 01512: Complex Analysis I 3 s.h.
The elementary theory of the functions of a complex variable covering operations with complex numbers, graphing on the Argand-Gauss-Wessel plane, analytic functions, complex integration. Cauchy's theorem and its applications, poles and residues, power series and conformal mapping are studied.

MATH 01513: Complex Analysis II 3 s.h.
The continuation of Complex Analysis I covering Riemann-Stieltjes integration, meromorphic functions, conformal mappings, analytic continuation, fractional linear transformations and periodic functions.

MATH 01515: Engineering Applications Of Analysis 3 s.h.
This course will cover various techniques for solving linear and nonlinear partial differential equations (PDEs) arising from physical and engineering applications; this includes both analytical and numerical methods. More specifically, students will learn the method of separation of variables for solving multi-dimensional problems, Fourier/Laplace transforms for solving infinite-domain problems, numerical methods (finite-difference, finite-element, Monte-Carlo), Green's functions, method of characteristics, and inverse scattering. Basic applications include a vibrating membrane (wave equation), heat flow along a metal plate (heat equation), steady-state fluid flow (Laplace's equation), traffic flow (shock waves), and solitary waves (solitons). Students will be required to use a computer algebra system, e.g. Mathematica, to solve problems.

MATH 01520: Topics In Applied Mathematics 3 s.h.
This course provides an overview of the mathematical modeling process and includes applications to optimization, dynamical systems, and Stochastic processes. Models of specific real world systems will be developed and studied using analytical and numerical methods.

MATH 01521: Nonlinear Differential Equations 3 s.h.
This course examines analytic and computer methods for the solution of ordinary differential equations which are of interest in applications. Topics are selected from differential equations in the phase plane, geometrical and computational aspects of the phase plane, averaging methods, perturbation methods, stability, Liapunov methods, existence of periodic solutions, bifurcations and chaos. Applications are also included that are of use in science and engineering.

MATH 01522: History Of Mathematics 3 s.h.
Topics will include: Babylonian, Egyptian and Greek mathematics. Attention will be given to the development of trigonometry, algebra, analytic geometry and the calculus.

MATH 01523: Selected Topics In Mathematics 1 to 6 s.h.
This course provides students with the opportunity to explore current issues in mathematics. The course will have a changing focus that will permit faculty to offer specialized seminars focused on new developments in the field, issues of significance, areas of faculty research, or in response to students' requests. Students may take this course for credit more than once (limit: 9 s.h.), as long as the focus of the course is different each time the student enrolls.

MATH 01524: Abstract Algebra I 3 s.h.
This introduction of abstract algebra will include the construction of number systems, theory of groups, rings, integral domains and fields. Other than on recommendation of the adviser, this course should not be chosen if a corresponding similar course has been part of the student's undergraduate study.

MATH 01525: Modern Geometry 3 s.h.
This course provides an overview of the field of geometry by studying selected geometries in depth, both Euclidian and non-Euclidian. Indicative exploration and the axiomatic method, as well as synthetic and algebraic approaches to problems, are examined. Unless recommended by the adviser, this course should not be chosen if a similar course has been part of the student's undergraduate program.

MATH 01526: Point Set Topology 3 s.h.
An introduction to one of the major branches of modern mathematics covering axiomatic development of topological spaces and metric spaces, and the concepts of convergence, continuity, separation, compactness and connectedness.

MATH 01527: Abstract Algebra II 3 s.h.
The continuation of Abstract Algebra I covering advanced material from group theory, ring theory and field theory.

MATH 01528: Mathematical Modeling & Algebraic Reasoning 3 s.h.
Students in this course will learn about polynomial, rational, and exponential functions by building and analyzing mathematical models for a variety of situations. Using algebraic representations, problem solving, using technology, connecting abstract algebra with middle grades mathematics, and fluency with algebraic procedures will be stressed.

MATH 01529: Numerical Analysis 3 s.h.
This course examines the theoretical foundations of numerical methods and studies in detail existing numerical methods for solving many standard mathematical problems in analysis and algebra. Error analysis will be developed for all methods. Some recent advances in the theory of chaos and nonlinear dynamics will also be presented.

MATH 01533: Graduate Seminar In Mathematics 3 s.h.
Students will be introduced to mathematics not found in textbooks. They will learn how to read journal articles and analyze them. An emphasis will be placed on communication skills, both oral and written. Students will be required to give both oral and written analysis of their readings.

MATH 01550: Independent Study 1 to 6 s.h.
This course is designed for an individual who wishes to study a mathematical subject or topic not included in the listed offerings of the program. The student undertakes independent study under the supervision of a mathematics staff member. Registration by permission of the department chairman and the supervising department member.

MATH 01552: HISTORY OF MATH 3 s.h.

MATH 01561: School Mathematics From An Advanced Standpoint 3 s.h.
This course is to develop a deeper understanding of mathematics and a new appreciation of its beauty, its logical structure and its applicability. The course will take into account not only the many interconnections among school mathematics topics but also their relationship to higher mathematics.

MATH 01603: Analytic Number Theory 3 s.h.
Prerequisites: MATH 01503, MATH 01512
This course covers introductory topics in analytic number theory. Topics include theory of congruence, multiplicative functions, distribution of prime and the Prime Number Theorem, subgroups of the modular group and their fundamental domains, modular forms and their Fourier series expansions.

MATH 03125: Calculus: Techniques And Applications 3 s.h.
Prerequisite(s): College Level Math or College Level Math Re-test with a score of 60 or higher or MATH 01123 with a minimum grade of C- or MATH 01122 with a minimum grade of C-
This course introduces students to the fundamental concepts and techniques of differential and integral calculus. Emphasis is placed on practical and informative applications of limits, derivatives and integrals in today's world, with those in business highlighted. A graphics calculator is required. Students are expected to have completed an equivalent of the course of College Algebra.

MATH 03150: Discrete Mathematics 3 s.h.
This course provides an overview of the branch of mathematics commonly known as discrete mathematics. Topics included are sets, relations, functions, induction and other methods of proof, recursion, combinatorics, graph theory, and algorithms. Emphasis is placed on the solution of problems and proofs. The use of graphing calculator is required.

MATH 03160: Discrete Structures 3 s.h.
This course covers mathematical topics essential for work in computer science. This material includes number bases, mathematical induction, sets, relations, functions, congruence, recursion, combinatorics, graphs, trees, logic, Boolean algebras, and proof techniques. While this is a course in mathematics, many of the examples and applications will be taken from computer science. The instructor may require use of a graphing calculator and/or computer. This course covers much of the same material as Discrete Mathematics (MATH03.150), but with a computer science focus. In no case will a student be allowed to receive credit for both courses. Both courses will be treated as equivalent for the purposes of satisfying prerequisites and course requirements.

MATH 03400: Applications Of Mathematics 3 s.h.
Prerequisite: C- or better in each of MATH 01210, MATH 01230, and MATH 01231
This course may include examples of mathematical models applied to the various fields of the biological, physical and social sciences. The process of building a mathematical model to describe a real world system will be demonstrated. Emphasis will be placed on the value of mathematical models for solving problems and obtaining new results. Computers and graphing calculators will be used.

MATH 03411: Deterministic Models In Operations Research 3 s.h.
Prerequisites: C- or better in (MATH 01230or MATH 01141) and C- or better in (MATH 01210or MATH 01235)
This course is an introduction to mathematical modeling, analysis, and solution procedures applicable to decision-making problems in deterministic environment. Methodologies covered include the simplex and interior point methods of solving linear programming models, inventory theory, assignment and transportation problems, dynamic programming and sensitivity analysis. Solutions will be obtained using theoretical methods and software packages.

MATH 03412: Stochastic Models In Operations Research 3 s.h.
Prerequisite(s): C- or better in each of STAT 02360 and MATH 03411 or C- or better in each of STAT 02360 and either MATH 01230 or MATH 01141 and either MATH 01210 or MATH 01235
This course is an introduction to mathematical modeling, analysis, and solution procedures applicable to decision-making problems in an uncertain (stochastic) environment. Methodologies covered include dynamic programming, Markov chains, queuing theory, decision trees, system reliability and inventory theory. Solutions will be obtained using theoretical methods and software packages.

MATH 03501: Mathematical Modeling for Biological Systems 3 s.h.
Prerequisite(s): MATH 01210 or MATH 01231 or permission of instructor
This course introduces students to modeling biological systems using ordinary differential equations. It focuses on the modeling process including the construction, analysis, and interpretation of mathematical models. It introduces new techniques for studying the solutions to these mathematical models and develops precedures for making the models more realistic.

MATH 03511: Operations Research I 3 s.h.
This course is an introduction to mathematical modeling, analysis, and solution procedures applicable to decision-making problems in deterministic environment. Methodologies covered include the simplex and interior point methods of solving linear programming models, project planning, network optimization, assignment and transportation problems, dynamic programming and game theory. Solutions will be obtained using theoretical methods and software packages.

MATH 03512: Operations Research II 3 s.h.
This course is an introduction to mathematical modeling, analysis, and solution procedures applicable to decision-making problems in an uncertain (stochastic) environment. Methodologies covered include dynamic programming, simulation, Markov chains, queuing theory, decision analysis, dynamic programming, system reliability and inventory theory. Solutions will be obtained using theoretical methods and software packages.

MATH 03525: Partial Differential Equations in Biomathematics 3 s.h.
Prerequisite(s): MATH 01231 or permission of instructor.
This course covers topics in partial differential equations as it applies to biomathematics. These include second order linear and nonlinear partial differential equations, diffusion and conservation laws, waves and pattern formation, Chemotaxis and other forms of cell and organism movement. Computer software, such as Mathematica, will be used.

MATH 03550: Topics In Discrete Mathematics 3 s.h.
This course provides an advanced approach to topics in discrete mathematics for persons with substantial backgrounds in traditional mathematics. Selected topics are explored in depth and related to concepts from other areas of mathematics. Topics normally included are logic, combinatorics, number systems, data structures and representations, Boolean algebra, induction, graphs and trees.

MATH 03600: Topics In Elementary Mathematics 3 s.h.
This course is designed to improve the understanding and attitudes of practicing elementary teachers (K-8). Specific topics to be addressed include quantitative reasoning, spatial reasoning, inductive and deductive reasoning, mathematical systems, and communication in mathematics. Students are expected to engage in some independent work.

MATH 03610: Applied Statistical Epidemiology 3 s.h.
Prerequisite: MATH 01505, MATH 01502 AND CS 01104 or equivalent or Permission of Instructor
This course introduces the basic concepts of epidemiology and focuses on analyzing epidemiological data using a statistical programming language such as R, one of the most efficient programming languages for statistical computing and graphics. This course will lay the ground work to successfully design, conduct, analyze and interpret findings from epidemiological studies using the appropriate statistical methods.

MATH 03611: Special Topics in Biomathematics 3 s.h.
This course covers in depth a wide-range of advanced topics in biomathematics inspired by applications of mathematics in biology and health sciences problems. The course will offer students the opportunity to learn modern emerging cutting edge research approaches not covered by other courses.

MATH 03612: Thesis in Biomathematics 3 s.h.
This course is a graduate Master's thesis course and will serve as capstone experience. It provides students with hands-on research experience in a topic of interest in biomathematics under the supervision of a faculty from the Department of Mathematics. Upon completion of the research project, the results will be presented to a Master's thesis committee for approval.

STAT 02100: Elementary Statistics 3 s.h.
This course gives a basic introduction to the fundamental concepts and methods of statistics. Its topics include: basic measures of central tendency and variability, graphical displays, elementary design of experiments, descriptive simple linear regression, elementary probability, the normal and t-distributions, confidence intervals and hypothesis testing. Use of a statistical calculator, graphing calculator or software package is required. Note: many majors require a different introductory statistics course; students should check their major requirements before signing up for this course.

STAT 02260: Statistics I 3 s.h.
Students learn to use various graphical displays and measures of location and variability to describe data. The course considers elementary probability and sampling distributions, and uses the normal and t-distributions in estimation and hypotheses testing. It includes descriptive techniques for simple linear regression and correlation. Use of a graphing calculator is required; computer software may be used. Students are expected to have completed an equivalent of College Algebra.

STAT 02280: Biometry 4 s.h.
Prerequisites: MATH 01130 and BIOL 01104 and BIOL 01106 or MATH 01130 and BIOL 01202 or MATH 01130 and BIOL 01100 and BIOL 01101
This laboratory course considers elementary data analysis, probability and sampling distributions. It uses the normal and t-distributions to introduce estimation and hypotheses testing. It includes descriptive tecniques and inference for simple linear regression and correlation. Analyses of variance, nonparametric tests and chisquare tests are covered in this course. Emphasis is placed on experimentation and the application of statistical methods to the biological sciences. Computer software is used regularly in data manipulation, statistical analyses, and formal presentation of results.

STAT 02290: Probability And Statistical Inference For Computing Systems 3 s.h.
Prerequisites: MATH 03160 and MATH 01131 and (CS 04113 or CS 04112)
This laboratory course considers descriptive techniques for presenting and summarizing data, techniques in probability, discrete and continuous random variables, estimation and hypothesis testing. Emphasis is placed on concepts and simulation, regularly using computer software for data manipulation and presentation, function manipulation and presentation, simulation, and statistical analyses. Examples will be drawn from the field of Computer Science.

STAT 02360: Probability And Random Variables 3 s.h.
Prerequisites: C- or better in MATH 03150 and either MATH 01230 or MATH 01141
This course is an introduction to the theory and application of probability and random variables, with a short introduction to mathematical statistics, as the post-calculus level. Topics covered include sample spaces, random variables, discrete and continuous probability distributions, mathematical expectation, and multivariate distributions. At the end of the course the concept of estimation, from mathematical statistics, will be introduced. A few of the concepts of descriptive statistics will be introduced as needed. Use of a graphing calculator is required.

STAT 02361: Mathematical Statistics 3 s.h.
Prerequisites: C- or better in STAT 02360
A continuation of STAT 02.360, the course emphasizes the theory of inferential statistics and its applications. The Central Limit Theorem is more fully developed as are the concepts of estimation and hypothesis testing. The properties of estimators are covered and tests using normal, t, chi-square, and F distributions are studied. Nonparametric methods, regression, and correlation are also covered. Use of a graphing calculator is required.

STAT 02371: Design Of Experiments: Analysis Of Variance 3 s.h.
Prerequisites: MATH 01210 and (STAT 02260 or STAT 02280 orSTAT 02284 or STAT 02290 or STAT 02361)
Students will gain an understanding of the major theoretical and practical concepts in the design of experiments using the statistical technique called the analysis of variance (ANOVA). A brief discussion of the concept of power, and the minimum number of experimental trials to achieve that power, will be used as this motivation for careful design. Students will be introduced to several aspects of the design of experiments beyond one- and two-way ANOVA, such as blocking, factorial designs, fractional designs, and random factors.

STAT 02510: Introduction to Statistical Data Analysis 3 s.h.
Prerequisites: Probability & Random Variables (STAT 02.360) or equivalent, and Linear Algebra (MATH 01.210) or equivalent.
This course examines the principles behind statistical data analysis, and introduces students to major areas of statistical data analysis needed by a practicing biomathematician. Using simulation, students will use bootstrapping to develop the mechanics of confidence intervals, use randomization to develop the mechanics of hypthesis tests, and learn the types of conclusions that can justifiably be made from a study. They will also be introduced to models of analyzing data that is categorical, numerical, and a combination of both, through the study of contingency tables, linear regression, and the analysis of variance. They will use at lease one statistical software package.

STAT 02513: Applied Stochastic Processes 3 s.h.
Prerequisite(s): STAT 02360 and MATH 01210 or ECE 09433 or permission of instructor.
This course introduces the concept of a sequence of random events known as a stochastic process, as well as the mathematical methods used to model variety of types of stochastic processes and analyze their short and long-term behavior. A broad spectrum of examples from bilogy, health, and medicine will be included throughout the course. Topics include the basic classifications of stochastic processes, Markov chains, Poisson processes, continuous-time Markov chains, renewal processes, and branching processes. Statistical and computer algebra system software will be used when relevant.

STAT 02514: Decision Analysis 3 s.h.
Prerequisite(s): STAT 02360 or equivalent.
This course examines the basic principles for performing a decision analysis, including those needed for decision making in areas such as medicine, the environment, and public health. Topics include the components of a decision and a model of a decision, the use of probability as a model for reasoning with uncertainty, subjective probability, utility theory, Bayesian inferential methods, sensitivity analysis, Monte Carlo simulation, and multi-objective decision problems. Professional decision analysis software will be used throughout the course.

STAT 02515: Applied Multivariate Data Analysis 3 s.h.
Prerequisite(s): Graduate standing in M.S. in Data Analytics or (MATH 01131 and MATH 01210) and (STAT 02360 and STAT 02260 or STAT 02290) or permission of the instructor.
This course examines the principles behind statistical data analysis for multivariate data, and introduces the students to major areas of multivariate I data analysis. Topics include multiple and logistic regression, principal component analysis, factor analysis, cluster analysis, MANOVA, multidimensional scaling, discriminant analysis and canonical correlation. The students will use at least one statistical software package.

STAT 02525: Design and Analysis of Experiments 3 s.h.
Prerequisite(s): Graduate standing and an introductory statistics course at at-least the 200 level, or permission of the instructor.
This is a graduate level course that investigates fundamental topics in experimentation as well as design methods. The course also introduces the analysis associated with various experiments. Examples and case studies based on real-world events will be used to illustrate course concepts. Students will be required to complete and end-to-end project that will include an experiment's design, data collection and analysis.

ENGR 01512: Principles Of Nanotechnology 3 s.h.
Prerequisites: (PHYS 02200 OR PHYS 00220) AND(PHYS 02201 OR PHYS 00222) AND CHEM 06100
This course explores the science and engineering at the nanometer scales. Topics include fundamentals of nanotechnology; types and properties of nanomaterials; methods of fabrication; how these materials are characterized and the potential applications.

ENGR 10513: RENEWABLE ENERGY 3 s.h.
Renewable Energy: Photovoltaics and Energy Harvesting
This course covers concepts and technologies related to renewable energy. The emphasis will be placed upon photovoltaics and energy harvesting. Topics include energy economy, renewable energy concepts and resources, photovoltaics, semiconductors, p-n junctions, solar cells using crystal materials, thin films, and organic materials, and energy harvesting using piezoelectric and thermoelectric devices. Course topics will be reinforced by in-depth discussion on research progress in renewable energy. Students will complete a term paper with the focus on an advanced topic in renewable energy.

ME 10501: Computer Integrated Manufacturing And Automation 3 s.h.
The course covers the basic aspects of computer integrated manufacturing and automation systems. Hard and flexible automation concepts are introduced. Various automation strategies are presented. Coding and classification ideas of group technology are related to computer aided process planning. Topics of numerical control, industrial robotics, and artificial intelligence are discussed.

ME 10505: Special Topics In Mechanical Engineering 3 to 6 s.h.
The topics will be announced in the course schedule.

ME 10506: Computational Materials Science 3 s.h.

ME 10511: Combustion 3 s.h.
This course presents the concepts of chemically reacting systems (flames) along with many practical applications. Topics include chemical equilibrium, chemical kinetics, premixed laminar flames, detonations, diffusion flames and environmental issues. The course uses chemically reacting flow software for combustion modeling.

ME 10512: Rocket Propulsion 3 s.h.
In this course, the principles of rocket propulsion theory are presented along with practical applications of rocket propulsion design. Theoretical topics include performance analysis of ideal rocket engines, departure from ideal performance and detailed thermochemical propellant calculations. Practical design issues are addressed for both liquid propellant engines and solid rocket motors. The course also includes an introduction to electric propulsion.

ME 10513: Principles In Advanced Heat And Mass Transfer 3 s.h.
Prerequisite: CHE 06311 or ME 10322
The topics covered in this course extend and complement the Thermal-Fluid Sciences II course. While Thermal-Fluid Sciences II provides an overview and introduction to the engineering fundamentals of heat transfer, Principles of Advanced Heat Transfer will provide a deeper knowledge of heat transfer principles, and will allow more rigorous and open-ended problems to be examined. The course will include two additional topics, radiation and mass transfer. Students successfully completing this course will be able to solve a wider range of heat and mass transfer problems encountered in industry.

ME 10514: Energy Conversion Systems 3 s.h.
This course will introduce energy conversion technologies for the generation of electrical power. Topics will include a review of power cycles, steam and gas cycles, generation of thermal power, combustion and fuels, steam power plant design considerations, gas turbine power plant operation and design considerations, combined cells, and environmental considerations in power generation. A course project will be required on an advanced topic of mutual interest between the student and instructor.

ME 10521: Gas Dynamics 3 s.h.
This course emphasizes application of the conservation equations of mass, momentum and energy to solve problems in one-dimensional and two-dimensional compressible flow including one-dimensional isentropic flow, flow with area change, adiabatic flow with friction, normal shock waves and flow with heat addition. The method of characteristics is introduced to solve two-dimensional compressible flow problems. Numerical techniques are presented and a numerical analysis project is completed on one-dimensional, unsteady flow.

ME 10522: Computational Fluid Dynamics 3 s.h.
This course introduces computational fluid dynamics (CFD) using a primarily software-based approach. Following an overview of the key steps involved with CFD, the class reviews the fundamental mathematics that govern fluid dynamics. An overview of governing equation discretization techniques is presented with assignments that involve building custom algorithms to solve simplified CFD problems. CFD essentials such as consistency, stability and convergence are covered in-depth. Several modeling labs are used to build software skill and explore internal and external flows that are largely incompressible and viscous. The final weeks of this class are dedicated to a final project on a student-selected topic. The student will complete an independent laboratory exercise of project.

ME 10540: Advanced Manufacturing 3 s.h.
This course will provide students with knowledge of modern manufacturing processes, how design is optimized for manufacture, and information on future directions of manufacturing, such as additive (3D printing) manufacturing techniques and the use of digital data across the product life cycle. The course will also discuss the taxonomy of manufacturing processes and provide an examination of current state of the art manufacturing with an emphasis on trends and directions in manufacturing, the relationship of digital data to design and production, and the impact of supply chain on production decisions.

ME 10541: Advanced Mechanism Design 3 s.h.
This course presents an indepth coverage of the design of mechanisms using matrix methods as the platform to model, synthesize, analyze and simulate mechanisms. It covers advanced design techniques that include type synthesis, numerical optimization techniques as applied to mechanism design. It also covers branch defects and circuit defects that occur during mechanism synthesis and modeling and simulation of mechanical systems. Students will perform analysis and simulation using appropriate mechanism design software.

ME 10542: Advanced Mechatronics 3 s.h.
This course introduces the students to the design and development of mechatronic systems. It introduces the students to the multidisciplinary nature of mechatronic products, and teaches them to design and develop such products. Students will learn about mechatronic design philosophy, mechatronic system modeling, sensors, actuators, microprocessors and their interfaces. The course project will involve the design of a real-world mechatronic system. A final project will be required.

ME 10543: Advanced Design For X 3 s.h.
This course introduces students to the design of systems from the Design for X perspective. The Design for X course teaches how to deal with conflicting and ever-increasing constraints upon the design process. It teaches students to adopt a systematic design approach that addresses issues related to manufacture, assembly, environment, reliability and other factors.

ME 10544: Automotive Engineering 3 s.h.

ME 10550: Advanced Solid Mechanics 3 s.h.

ME 10551: Mechanics Of Continuous Media 3 s.h.
Students will engage the three-tiered framework used to interrogate problems involving bodies of continuous media. This begins with derivation of the governing equations from the conservation of mass, momentum, and energy followed by the application of constitutive models, such as Hooke's law, that govern the behavior of particular materials, and concludes with the solution of boundary value problems. In addition to the study of classical problems and their solutions, students will be required to program numerical algorithms for the solution of problems that can not be solved in closed form. Kinetic and kinematic constraints, such as material frame indifference, compatibility, and objectivity, will be addressed. The material covered will include both cylindrical and Cartesian coordinate frames.

ME 10552: Structural Acoustics 3 s.h.
The control of noise is an important part of engineering practice in many industries today. Vital to effective noise control is an understanding of wave behavior in structures. This course will teach engineers the fundamentals of the generation of noise in structures, with an emphasis on the phenomena of mechanical resonance and modal behavior. Topics covered include vibration of strings, bars, beams and plates. An introduction to simple acoustic sources will be given.

ME 10553: Analytical Dynamics 3 s.h.
This course is an advanced introduction to three-dimensional motion of particles and rigid bodies. Students study modern analytical rigid body dynamics equation formulation and computational solution techniques applied to mechanical systems and multibody systems. Students will formulate Newton/Euler and Lagrangian equations for applications to engineering systems, Hamiltonians principle, study kinematics of motion generalized coordinates and speeds, analytical and computational determination of inertia properties, generalized forces, holonomic and nonholonomic constraints, computational simulation.

ME 10554: Elastic Stability Of Structures 3 s.h.
Many important structures (e.g. buildings, bridges, aircraft frames) have buckling as a primary mode of failure. Because of this, it is important for structural engineers to have at least a cursory knowledge of elastic stability phenomena. This course will provide graduate-level Mechanical Engineering students with an overview of elastic stability in structures, and a brief introduction to dynamic stability, as applied to rotating shafts. Applications of mathematical theory to real-world structural design problems will be emphasized.

ME 10570: Principles In Biomechanics 3 s.h.
This course presents topics in the biomechanics of human motion. The course will encompass the use of engineering principles to describe, analyze and assess human movement. Topics will include kinematics, kinetics, anthropometry applied to the synthesis of human movement and muscle mechanics. A course project and laboratory project will enhance this course.

ME 10571: Principles In Biotransport 3 s.h.
Prerequisites: ENGR 01341 or ME 10321
This course introduces biotransport in terms of heat transfer, mass transfer, and fluid mechanics related to the human body. Some examples include cryosurgery of warts and drug delivery from skin patches. Beginning with biotransport problem formulation, the course explores software tools that enable mathematical modeling. Fundamental principles of model validation, mesh convergence, sensitivity analysis, and objective functions are presented. Several modeling labs are used to build software skill and explore various heat and mass transfer processes inside and around the human body. Medical device development concepts are presented, making a connection between modeling activities and product development. The final weeks of this class are dedicated to a final project on a student-selected topic. The student will complete an independent laboratory exercise or project.

ME 10572: Principles In Biomaterials 3 s.h.
Prerequisites: ENGR 01281 or ENGR 01283
The goal of this course is to introduce the numerous issues that factor into material selection for biomedical devices. Issues to be examined include mechanical properties, biocompatibility, production costs, and ease of manufacture. This course will familiarize students with relevant material issues and highlight the process for matching material performance with the desired design characteristics and functionality.

ME 10576: Principles In Orthopaedic Biomechanics 3 s.h.
Prerequisite: ENGR 01272 or ENGR 01273
This course presents both introductory and emerging areas of orthopaedic biomechanics. The course will encompass the use of engineering principles to describe, analyze and assess the musculoskeletal system. Topics will include bone and soft tissue mechanics, implant systems, fracture fixation, joint replacements and reviews of current research.

MED 01627: Scholars Workshop IV 1 s.h.

MED 01628: Ambulatory Clerkship IV 1 s.h.

MHP 00610: Basic Laboratory Techniques-Biology 3 s.h.
Prerequisite: MBS 00501 and MBS 00502; or equivalent, with course director's permission.
This course will teach students the most basic techniques used in a modern biomedical laboratory, to prepare them to integrate these techniques into more advanced processed they will use later. *This course is only open to students in the Masters in Histopathology program.*

MHP 00611: Histology I: Basic Tissue Types 3 s.h.
Prerequisite: MBS 00501 and MBS 00502; or equivalent, with course director's permission.
This course introduces students to the basic tissue types, as well as some of the common stains used to differentiate elements of tissue. In addition, students will learn to use a microscope and analyze photomicrographs critically. *This course is only open to student in the Masters in Histopathology program.*

MHP 00612: Histology II: Techniques 4 s.h.
Prerequisite: MHP 00511 and MHP 00512 and MHP 00514and MHP 00611
This advanced animal techniques course will reinforce what students learned about basic mouse colony management and teach students advanced preclinical research techniques. This course is lab intensive. Students will receive one-on-one instruction for each of the indicated skills listed in the syllabus. This format will allow students to develop advanced animal research skills, which is valuable for job placement upon graduation. *This course is only open to students in the Masters in Histopathology program.

MHP 00613: Histology III: Organ Systems 3 s.h.
Prerequisites: MHP 00511 and MHP 00503; or equivalent, with course director' permission.
In this course, students will apply their knowledge of tissue types to develop an understanding of organ structure and function. This will include information specific to commonly used animal models (e.g. rats, mice, rabbits). *This course is only open to students in the Masters in Histopathology program.*

MHP 00614: Basic Animal Techniques 4 s.h.
Prerequisites: MHP 00511 and MHP 00512 and MHP 00514.
This basic animal techniques course will teach students mouse colony management and preclinical research techniques. This course is lab intensive . Students will receive one-on-one instruction for each of the indicated skills listed in the syllabus. This format will allow student to develop basic skills in managing a mouse colony and processing of tissues, which is valuable for job replacement upon graduation. *This course is only open to students in the Masters in Histopathology program.*

MHP 00615: Advanced Animal Techniques 4 s.h.
Prerequisites: MHP 00514 and MHP 00511 and MHP 00512 andMHP 00611
This advanced animal techniques course will reinforce what students learned about basic mouse colony management and teach students advanced preclinical research techniques. This course is lab intensive. Students will receive one-on-one instruction for each of the indicated skills listed in the syllabus. This format will allow students to develop advanced animal research skills, which is valuable for job placement upon graduation. *This course is only open to students in the Masters in Histopathology program.

MHP 00616: Topics in Pathology 2 s.h.
Prerequisite: MBS 00609Co=requisite: MHP 00513
This course will provide students in the Masters in Histopathology program exposure to the pathology of major organ systems. This course is only open to students in the Masters in Histopathology program.

MUS 04514: Choral Procedures 2 s.h.
Designed as a laboratory course for choral directors in the organization of rehearsal techniques, selection and placing of voices and development of programs. Special attention is given to individual vocal needs.

MUS 04536: Chamber Music I 1 s.h.
The study and performance of selected repertoire for specific instrumental groups and combinations. Students will be assigned to a small ensemble and will be required to rehearse and to perform the chosen repertoire in a public setting.

MUS 04537: Chamber Music II 1 s.h.
The study and performance of selected repertoire for specific instrumental groups and combinations. Students will be assigned to a small ensemble and will be required to rehearse and to perform the chosen repertoire in a public setting.

MUS 04540: Jazz Arranging And Composition 3 s.h.
The course presents techniques in arranging and composition in the jazz idiom and is tied to the course CD Project in that it coordinates the needs of the second course through preparation in Jazz Arranging and Composition. Students will be required to arrange and orchestrate existing compositions and compose original music in the jazz idiom.

MUS 04541: Jazz Piano 1 s.h.
This course in applied music for the non-pianist focuses on the basic keyboard skills needed by the professional jazz musician, especially the use of the piano to realize harmonic progressions and concepts. The student must have passed the piano proficiency exam before enrolling for this course.

MUS 04545: Opera Role Study I 3 s.h.
A complete opera role from the standard repertoire will be learned and performed in each semester through private instruction and coaching, either in staged or unstaged, in public.

MUS 04546: Opera Role Study II 3 s.h.
A complete opera role from the standard repertoire will be learned and performed in each semester through private instruction and coaching, either in staged or unstaged, in public.

MUS 04551: Piano Accompanying I 1 s.h.
This course in applied piano accompanying will pair the student with a vocal or instrumental student under the supervision of the piano instructor.

MUS 04555: Counterpoint 3 s.h.
The principles of counterpoint and its practical application in musical literature are studied.

MUS 04557: Advanced Orchestration 3 s.h.
This course will introduce the conducting student to the practical considerations of performance on orchestral instruments and their use in orchestral repertoire.

MUS 04560: Form And Analysis 3 s.h.
The course presents important contemporary approaches to the analysis and understanding of music of all periods including those of the present. Students will present analyses of works appropriate to their graduate level studies in their major area. This is a required course for all students in the master of music program.

MUS 04561: Score Reading I 1 s.h.
This course begins training the conducting student to read orchestral scores, including the mastery of clefs and transposition. It is a requirement for the Master of Music in Instrumental Conducting.

MUS 04562: Score Reading II 1 s.h.
This course continues training the conducting student to read orchestral scores, including the complete mastery of clefs and transposition, and the study of score reductions. It is a requirement for the Master of Music in Instrumental Conducting.

MUS 04565: Seminar In Band Conducting 3 s.h.
This course will involve classroom discussion, research, and scholarly presentations of topics related to the business of conducting, where students will share their views with other students and the facilitator. The class will visit rehearsals of professional organizations and bands and will interview known professionals in the field. A lecture presentation by each student on a relevant conducting topic will conclude the semester.

MUS 04570: 20th Century Literature And Techniques 3 s.h.
This course explores 20th century music and the compositional techniques it embodies. Emphasis will be upon important trends and developments that are still current in the music of today. Each student will present his/her own research in this area of study as it relates to their major area of study. This is a required course for the master of music in composition.

MUS 04575: Cd Project 2 s.h.
The student will develop and produce a compact disk containing the student's original compositions through the choice of repertoire to be performed, the rehearsal of the material, to the completion of the technical and business details leading to a final product.

MUS 05500: Analyzing Jazz Structures 1 s.h.
Prerequisite(s): None
This course will guide the student through the basics of jazz song forms and solo construction. Analysis of both will be stressed. This course is repeated for three semesters, focusing on different materials and repertoire each semester.

MUS 05501: Jazz Analyzing Structures 1 s.h.
Prerequisite(s): None
This course will guide the student through the basics of jazz song forms and solo construction. Analysis of both will be stressed. This course is repeated for three semesters, focusing on different materials and repertoire each semester.

MUS 05502: Analyzing Jazz Structures 1 s.h.
Prerequisite(s): None
This course will guide the student through the basics of jazz song forms and solo construction. Analysis of both will be stressed. This course is repeated for three semesters, focusing on different materials and repertoire each semester.

MUS 05503: Jazz Composition 3 s.h.
Prerequisite(s): None
This course will guide the student through the basics of jazz composition from historical perspectives, analysis of great seminal composers, small and large form compositions, and analysis of various compositional styles.

MUS 08156: Contemporary Music Ensemble 1 s.h.
Dedicated to the performance of new music, this ensemble performs the works of Rowan composition students and other contemporary composers.

MUS 10501: Graduate Secondary Applied Instrument I 2 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10502: Graduate Secondary Applied Instrument II 2 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10503: Graduate Secondary Applied Instrument III 2 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10504: Graduate Secondary Applied Instrument IV 2 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10505: Graduate Secondary Applied Voice I 2 s.h.
Private instruction in techniques of singing. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10506: Graduate Secondary Applied Voice II 2 s.h.
Private instruction in techniques of singing. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10507: Graduate Secondary Applied Voice III 2 s.h.
Private instruction in techniques of singing. Designed to guide the development of each student toward the realization of his fullest as a performer.

MUS 10508: Graduate Secondary Applied Voice IV 2 s.h.
Private instruction in techniques of singing. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10509: Graduate Applied Instrument I 4 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest performer as a performer.

MUS 10510: Graduate Applied Instrument II 4 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10511: Graduate Applied Instrument III 4 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10512: Graduate Applied Instrument IV 4 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10513: Graduate Applied Voice I 4 s.h.
The continuation, on an advanced level, of the intensive study of vocal technique and performance begun in the undergraduate level. Successful completion requires the preparation and performance of a graduate recital of sufficiently high quality to provide access to professional auditions, doctoral programs and teaching positions in higher education.

MUS 10514: Graduate Applied Voice II 4 s.h.
The continuation, on an advanced level, of the intensive study of vocal technique and performance begun in the undergraduate level. Successful completion requires the preparation and performance of a graduate recital of sufficiently high quality to provide access to professional auditions, doctoral programs and teaching positions in higher education.

MUS 10515: Graduate Applied Voice III 4 s.h.
The continuation, on an advanced level, of the intensive study of vocal technique and performance begun in the undergraduate level. Successful completion requires the preparation and performance of a graduate recital of sufficiently high quality to provide access to professional auditions, doctoral programs and teaching positions in higher education.

MUS 10516: Graduate Applied Voice IV 4 s.h.
The continuation, on an advanced level, of the intensive study of vocal technique and performance begun in the undergraduate level. Successful completion requires the preparation and performance of a graduate recital of sufficiently high quality to provide access to professional auditions, doctoral programs and teaching positions in higher education.

MUS 10517: Graduate Applied Instrument I 6 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10518: Graduate Applied Instrument II 6 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10519: Graduate Applied Instrument III 6 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10520: Graduate Applied Instrument IV 6 s.h.
Private instruction on a student's major instrument. Designed to guide the development of each student toward the realization of his fullest potential as a performer.

MUS 10521: Graduate Applied Voice I 6 s.h.
The continuation, on an advanced level, of the intensive study of vocal technique and performance begun in the undergraduate level. Successful completion requires the preparation and performance of a graduate recital of sufficiently high quality to provide access to professional auditions, doctoral programs and teaching positions in higher education.

MUS 10522: Graduate Applied Voice II 6 s.h.
The continuation, on an advanced level, of the intensive study of vocal technique and performance begun in the undergraduate level. Successful completion requires the preparation and performance of a graduate recital of sufficiently high quality to provide access to professional auditions, doctoral programs and teaching positions in higher education.

MUS 10523: Graduate Applied Voice III 6 s.h.
The continuation, on an advanced level, of the intensive study of vocal technique and performance begun in the undergraduate level. Successful completion requires the preparation and performance of a graduate recital of sufficiently high quality to provide access to professional auditions, doctoral programs and teaching positions in higher education.

MUS 10524: GRADUATE APPLIED VOICE IV 6 s.h.
The continuation, on an advanced level, of the intensive study of vocal technique and performance begun in the undergraduate level. Successful completion requires the preparation and performance of a graduate recital of sufficiently high quality to provide access to professional auditions, doctoral programs and teaching positions in higher education.

MUS 10525: Graduate Music Composition I 4 s.h.
The student develops his undergraduate compositional skills, completing a major work for chamber ensemble which demonstrates an ability to use contemporary compositional ideas in the organization of music.

MUS 10526: Graduate Music Composition II 4 s.h.
This course prepares the student to complete his/her major requirement in music composition: a thesis consisting of a major compositional work and a paper describing its genesis. May be re-taken.

MUS 10527: Graduate Music Composition I 6 s.h.
The student develops his undergraduate composition skills, completing a major work for chamber ensemble which demonstrates an ability to use contemporary compositional ideas in the organization of music.

MUS 10528: Graduate Music Composition II 6 s.h.
This course prepares the student to complete his/her major requirement in music composition: a thesis consisting of a major compositional work and a paper describing its genesis. May be re-taken.

MUS 10529: Graduate Conducting I 4 s.h.
Private instructing in conducting. This course in the conducting sequence, is designed to guide the development of conductors to a full realization of their technical and musical potential.

MUS 10530: Graduate Conducting II 4 s.h.
Private instructing in conducting. This course in the conducting sequence, is designed to guide the development of conductors to a full realization of their technical and musical potential.

MUS 10531: Graduate Conducting III 4 s.h.
Private instructing in conducting. This course in the conducting sequence, is designed to guide the development of conductors to a full realization of their technical and musical potential. During semester III of the conducting sequence, the student is expected to serve as Assistant Conductor of an appropriate ensemble at the discretion of the conducting faculty.

MUS 10532: Graduate Conducting IV 4 s.h.
Private instructing in conducting. This course in the conducting sequence, is designed to guide the development of conductors to a full realization of their technical and musical potential. During semester IV of the applied conducting sequence, the student is expected to serve as Assistant Conductor of an appropriate ensemble at the discretion of the conducting faculty. In addition, as a culminating activity, the student will present a full-length conducting recital.

MUS 10533: Graduate Conducting I 6 s.h.
Private instructing in conducting. This course in the conducting sequence, is designed to guide the development of conductors to a full realization of their technical and musical potential.

MUS 10534: Graduate Conducting II 6 s.h.
Private instructing in conducting. This course in the conducting sequence, is designed to guide the development of conductors to a full realization of their technical and musical potential.

MUS 10535: Graduate Conducting III 6 s.h.
Private instructing in conducting. This course in the conducting sequence, is designed to guide the development of conductors to a full realization of their technical and musical potential. During semester III of the conducting sequence, the student is expected to serve as Assistant Conductor of an appropriate ensemble at the discretion of the conducting faculty.

MUS 10536: Graduate Conducting IV 6 s.h.
Private instructing in conducting. This course in the conducting sequence, is designed to guide the development of conductors to a full realization of their technical and musical potential. During semester IV of the conducting sequence, the student is expected to serve as Assistant Conductor of an appropriate ensemble at the discretion of the conducting faculty. In addition, as a culminating activity, the student will present a full-length conducting recital.

MUS 10537: Graduate Ensemble: Concert Choir 1 s.h.

MUS 10538: Graduate Ensemble: Concert Choir 1 s.h.

MUS 10539: Graduate Ensemble: Concert Choir 1 s.h.

MUS 10540: Graduate Ensemble: Concert Choir 1 s.h.

MUS 10541: Graduate Ensemble: Jazz Band 1 s.h.

MUS 10542: Graduate Ensemble: Jazz Band 1 s.h.

MUS 10543: Graduate Ensemble: Jazz Band 1 s.h.

MUS 10544: Graduate Ensemble: Jazz Band 1 s.h.

MUS 10545: Graduate Ensemble: Lab Band 1 s.h.

MUS 10546: Graduate Ensemble: Lab Band 1 s.h.

MUS 10547: Graduate Ensemble: Lab Band 1 s.h.

MUS 10548: Graduate Ensemble: Lab Band 1 s.h.

MUS 10549: Graduate Ensemble: Orchestra 1 s.h.

MUS 10550: Graduate Ensemble: Orchestra 1 s.h.

MUS 10551: Graduate Ensemble: Orchestra 1 s.h.

MUS 10552: Graduate Ensemble: Orchestra 1 s.h.

MUS 10553: Graduate Ensemble: Wind Ensemble 1 s.h.

MUS 10554: Graduate Ensemble: Wind Ensemble 1 s.h.

MUS 10555: Graduate Ensemble: Wind Ensemble 1 s.h.

MUS 10556: Graduate Ensemble: Wind Ensemble 1 s.h.

MUS 40315: Entrepreneurship in the Music Industry 3 s.h.
Prerequisites: MUS 40111 and MUS 40113 and MUS 40212
This course provides an in-depth view of the major technological disruptions and the ensuring business opportunities that have shaped the music industry, from wax cylinder to vinyl record, cassette, CD, MP3, and Internet streaming services, with a particular focus on how the digital age has utterly transformed the music industry. Comprehensive research and analysis of current and cutting-edge music business models and marketing strategies complete this course curriculum.

MUS 97301: Trombone Class .5 s.h.
Designed for Music Education majors, this course addresses trombone pedagogy and basic trombone performance.

MUS 97302: Percussion Class 1 s.h.
A study of rudimental and ensemble techniques of snare drum, timpani, bass drum, cymbals and accessory instruments.

MUS 97309: Trumpet Class .5 s.h.
Designed for Music Education majors, this course addresses trumpet pedagogy and basic trumpet performance.

MUS 97310: Tuba Class .5 s.h.
Designed for Music Education majors, this course addresses tuba pedagogy and basic tuba performance.

MUS 97312: Conducting-Instrumental II 2 s.h.
Prerequisites: MUS 97212
This course demonstrates and rehearses the skills of instrumental conducting through music for instrumental ensembles.

MUS 97313: Conducting-Choral II 2 s.h.
Prerequisites: MUS 97213
Students apply basic conducting techniques to repertoire spanning each of the major time periods. In addition to gesture, great emphasis is given to score reading and score analysis skills.

MUS 97400: Voice Class 1 s.h.
A study of the basic principles of singing taught in a group setting. Students will learn beginners breathing technique, tone placement and projection through the singing of goup and solo repertoire. Course is open to non-music majors.

MUS 97401: Bassoon Class .5 s.h.
This course teaches the fundamentals of the bassoon.

MUSG 05547: Music And The Related Arts 3 s.h.
The aesthetics of music is approached from the point of view that the same forces motivate all the arts and that significant parallels exist among them. This course may not be offered annually.

MUSG 06303: Choral Literature 2 s.h.
A chronological study and analysis of small and large choral works from the early chant to the present is stressed through recordings, live performances and class participation. Conducting of choral work is a major activity of this course.

MUSG 06503: Jazz History 3 s.h.
This course presents an overview of jazz history and requires the student to prepare indepth studies of any three topics related to the history of jazz, chosen in consultation with the professor. Students must exhibit their mastery of these areas by written and oral assignments.

MUSG 06505: History And Literature Of Guitar And Lute 3 s.h.
This course provides indepth study of the literature of the family of plucked instruments, especially the guitar and lute, from the Renaissance to the present day.

MUSG 06506: Art Song Literature 3 s.h.
The indepth study of the evolution and development of the art song as a genre, its development, structure, styles and composers from the 17th century to the present. Aural familiarity and stylistic recognition will be emphasized, as will the association of song composers with their works and periods.

MUSG 06509: String Instrument Literature 3 s.h.
This course explores the literature written for stringed instruments from both stylistic and technical points. Students will study and analyze the most important solo works for the bowed string instruments and will be expected to identify aurally these works and to provide written analyses of several. It is a required course for string students in the master of music program and is available also as an elective.

MUSG 06510: Keyboard Literature 3 s.h.
This course presents a broad overview of the massive literature for the keyboard from Baroque through the end of the 20th century. Students learn to listen, to analyze, and to identify the stylistic characteristics of the great composers for the piano. They will, within the course of the semester, choose several composers whose works are of particular interest to them, thoroughly catalogue their literature and analyze in depth several compositions by each. The results of this work will be presented in oral and written form.

MUSG 06511: Twentieth Century Band Literature 3 s.h.
This course will survey all levels of band repertoire, from elementary through high school, and standard college and professional band works. Students will have a knowledge of where to find musical selections for any scenario, from teaching works to standard competition pieces and public performance selections.

MUSG 06542: Opera Literature 3 s.h.
An historical survey of opera, its development and composers, from 1600 to the present. The course will emphasize the most important operas, their plots, forms and main musical numbers.

MUSG 06545: Development And Interpretation Of Choral Literature 2 s.h.
Studies choral music from Gregorian chant to contemporary works. Representative works of various types studied in detail. These are drawn from various categories such as motet, madrigal, polyphonic chanson, cantata and oratorio. This course may not be offered annually.

MUSG 06546: Development And Interpretation Of Symphonic Literature 3 s.h.
The evolution of instruments, the standardization of the orchestra in the classic period, the introduction of new instruments and the growth of the orchestra are studied. The principal orchestral forms such as the symphony and the concerto are studied and various types of orchestration are examined. This course may not be offered annually.

MUSG 06555: SEL TOPICS-MUSIC ED 3 s.h.

SMED 01120: Foundations Of Music Education 3 s.h.
Foundations of Music Education is an introductory course in the music education program. It provides a broad overview of the field of music education, addressing the historical development of music education in the United States as well as current approaches and issues in the field. The course is framed by three guiding questions: What is the purpose of music education?; How can students best explore music?; and How can teachers best create music learning experiences for their students? In addition, two projects that extend throughout the music education major are introduced: a personal philosophy of music education, and a digital portfolio.

SMED 32329: Teaching/Learning Music A: Elementary General Music 3 s.h.
Prerequisites: C- or better in MUS 04130, MUS 04131,MUS 04132, MUS 04133, MUS 04240, MUS 04241,MUS 04242, MUS 04243, EDUC 01284, READ 30319and SMED 33420
The methods, materials and techniques of teaching music from K through 12 are surveyed. Attention is given to the developmental sequence in the building of musical concepts necessary for the organization of an effective general music program in the public schools.

SMED 32330: Teaching/Learning Music B: Vocal Methods And Techniques 3 s.h.
This course, along with other courses in a series, helps to prepare students to teach the choral arts in the public schools with particular attention to grades 7-12. Techniques of teaching, vocal training, choral organization and the philosophy of teaching choral music are the areas to be emphasized.

SMED 32331: Teaching/Learning Music B: Instrumental Methods And Techniques 3 s.h.
A survey is made of the necessary understanding, techniques, and materials to develop an effective instrumental music program. Consideration is given to the place of instrumental music and its relationship to the total school program.

SMED 32502: Teaching Of Music Theory 3 s.h.
Methods of teaching theory such as listening, reading, writing, analyzing, playing and creating are examined. The content of music theory courses and representative music theory texts are analyzed and evaluated. This course may not be offered annually.

SMED 32505: Selected Approaches In Music Education 3 s.h.
The approaches are those of: Gordon, Kodaly, Orff, Montessori, Suzuki, and Jacques-Dalcroze. The student will research each approach, and while doing an in-depth study on one approach, develop a curriculum for his or her teaching situation. This course is offered bi-annually.

SMED 32506: Guitar Pedagogy 3 s.h.
The student will be made aware of the philosophies of guitar instruction, be familiar with the two or three most widely-used method books and will have begun to develop his/her own pedagogical system. A practicum experience is included in the course.

SMED 32507: Piano Pedagogy 3 s.h.
The course will systematically present the pedagogical methods and materials readily found in the United States for teaching beginning, intermediate and early advanced students of the piano. A supervised practicum is an essential part of the course.

AHI 05501: Integrated Information Technology In Health Care 3 s.h.
Prerequisite: BSN, BS or BA (in health care related field) and evidence of successful completion of an undergraduate computer course that contained content in healthcare informatics.
The delivery of efficient health care requires the integration of information technology. This course builds on basic informatics knowledge and challenges the learner to apply these principles to the health care setting. The student will consider emerging technology and creatively investigate ways to improve patient care.

NURS 03303: Comprehensive Health Assessment 3 s.h.
This course builds upon the Registered Nurse's fundamental knowledge and skills of health assessment. In utilizing a systematic approach, the student will develop a holistic approach in assessing the patient throughout the lifespan. Upon completion, the student will show competency in obtaining a thorough health history and becoming efficient in the physical skills of inspection, palpation, percussion and auscultation. Differences between normal and abnormal findings will be explored and appropriate documentation of findings will be stressed. Students will also be exposed to the cultural differences in health and will incorporate evidence based approaches to assessment.

NURS 03304: Nursing Informatics 3 s.h.
This course reviews the information needs and information systems related to nursing practice. Students will experience the manner in which informatics supports all areas of practice, including education, clinical practice, administration and research.

NURS 03309: Topics In Health Care Ethics 3 s.h.
Students in this nursing course will examine moral dilemmas created or intensified by recent advances in medical technology and study ways of analyzing those dilemmas. Discussion topics include: euthanasia and the right to die, abortion, behavior modification, allocation of scarce medical resources, in vitro fertilization, genetic screening and engineering and human experimentation. These moral dilemmas will be related to nursing.

NURS 03401: Community Health Nursing 6 s.h.
Prerequisite: NURS 03303
This course will explore how community health nurses use concepts from nursing and public health to provide comprehensive, continuous, preventative healthcare thereby promoting health for communities, populations at risk, aggregates, families, and individuals. This course prepares the RN to BSN student to develop competencies in managing health status in the context of multicultural communities. Students will be able to expand current knowledge and skills, develop enhanced research and critically thinking skills with the application of these skills to the multicultural community and the global society considering the biopsychosocial, cultural, ethical, legal, and economic issues that impact the community as a client. The clinical practicum focuses on clients with diverse needs in a variety of settings.

NURS 03403: Nursing Care Delivery Systems 4 s.h.
Prerequisite: NURS 03303
The focus of this course is the professional nurse's leadership and management role within health care delivery systems. The multi-faceted aspects of the role of the nurse as leader and manager are explored in depth, with emphasis on the role of the nurse as change agent. Organizational behavior, decision-making, the change process and the management of health care organizations are components of this course. The concepts of professionalism, leadership-management, research and teaching-learning are integrated with the professional nurse's role. This course prepares students to function as change agents in the health care delivery system. The clinical component focuses on the application of relevant theory and research as a basis for decision-making. Students are mentored by faculty, and interact with members of the nursing leadership team to explore Nursing leadership.

NURS 03404: Research Applications In Nursing Practice - Wi 3 s.h.
Prerequisites: STAT 02100 and COMP 01112
This course introduces students to the concepts and process of research in nursing. Emphasis is placed on writing and critiquing published studies and developing plans for using research findings in practice.

NURS 03405: Health Care Policy And Finance 3 s.h.
The focus of this course is the professional nurse's role in health care policy and finances within health care systems. The multi-faceted aspects of health care policy making and financing within today's ever-changing health care environment are explored. Risk management and quality care are integrated into the course. This course gives the student a financial understanding of the health care delivery system. Students are exposed to the political and legislative process within health care agencies and health care policy development at the state and federal levels. Ethical and legal issues in nursing and health care are explored.

NURS 03503: Nursing Research 4 s.h.
Prerequisites: STAT 02100 or the equivalentandenrollment in the UMDNJ/Rowan JointR.N. to B.S.N. Program and NURS 03404
Students focus on the theoretical and scientific underpinnings for evidence-based advanced nursing practice. In-depth critical analysis of scientific research and methods for systemic review, as relevant to patient care and health policy outcomes, are emphasized. Ethical, legal, economic, and cultural issues surrounding the conduct and utilization of research practice are examined. Students obtain skills in using bibliographic databases. The roles of the advanced practice nurse in research are explored.

NURS 05501: Advanced Health Assessment 3 s.h.
Prerequisites: Licensed as a Registered Nurse (R.N.)AND BSN OR BA (If student has BA then NURS03303 AND NURS 03404 AND NURS 03405)
Advanced Health Assessment prepqres the graduate nurse to identify abnormal findings and critically analyze these findings. Critical analysis will result in problem identification and planning. This course will serve as a core requirement for completion of a graduate nursing degree.

NURS 05502: Teaching and Learning in Nursing 3 s.h.
Successful Completion of Core MSN courses with a minimum GPA of 3.0
This course begins preparation for the professional nurse to investigate teaching and learning in the nursing field. This initial course lays the foundation for more advanced testing and curricular development courses. Key concepts for investigation include evidence based teaching, learning theories, nursing education theories, technoligical advances in nursing education and clinical competency.

NURS 05503: Advanced Nursing Research 4 s.h.
Prerequisite(s): STAT 02100 or equivalent; enrollment in Rowan Nursing Program
Students focus on the theoretical and scientific underpinnings for evidence-based advanced nursing practice. In-depth critical analysis of scientific research and methods for systemic review, as relevant to patient care and health policy outcomes, are emphasized. Ethical, legal, economic, and cultural issues surrounding the conduct and utilization of research practice are examined. Students utlilize sills in searching bibliographic databases. The roles of the master's prepared nurse in research are explored.

NURS 05504: Advanced Pathophysiology 3 s.h.
Prerequisite: Licensure as a registered nurse and NURS 03303
This course describes the disordered physiology and clinical consequences resulting from common disease processes. Seminar discussions focus on alterations in normal functions of major organ systems. Through problem-solving exercises and case studies, students are encouraged to recognize the pathophysiologic basis of clinical findings associated with disease processes. This course serves as an essential link between the basic sciences and clinical management.

NURS 05505: Advanced Pharmacology 3 s.h.
Prerequisite: Licensure as a registered nurse and NURS 03303 and NURS 05504
This course expands students' knowledge of clinical pharmacology to provide a sound basis from which to engage in prescriptive drug management. Pharmacodynamics, pharmacokinetics and pharmacotherapeutics of drug classes are explored through a variety of teaching-learning methodologies, including seminar discussion, problem-based case study presentations, focused readings, and web-based exercises.

NURS 05506: Learning Assessment in the Classroom and Clinical Environment 3 s.h.
Successful Completion of Core MSN courses with a minimum GPA of 3.0
Nurse educators use a variety of strategies to evaluate student learning in a variety of settings. This course prepares the nurse educator to use assessment and evaluation strategies effectively in relationship to all domains of learning.

NURS 05507: Leadership & Care Delivery Environment 3 s.h.
Prerequisites: Licensed as a Registered Nurse (R.N.)AND BSN OR BA (If BA then NURS 03303 ANDNURS 03404 AND NURS 03405)
This course is focuses on the analysis, integration and application of principles of leadership and management to health care organizations and to population-based efforts across the health care delivery system. The concepts of leadership and stewardship are explored from a historical and contemporary perspective with particular application to the health professions. The course fosters self awareness as a necessary condition for effective self management and self development, and a prerequisite for leading others. Special emphasis is placed on the practical skills needed for nurses to succeed as leaders and managers in today's local, state, national and international health care environment.

NURS 05508: Special Issues & Trends In Nursing 3 s.h.
Prerequisites: Licensed as a Registered Nurse (R.N.)AND BSN OR BA (if BA then NURS 03303 ANDNURS 03404 AND NURS 03405)
This course focuses on current trends and issues in professional nursing and health care delivery. The course is individually tailored to meet each student's educational goals and area of special interest in nursing and healthcare delivery in the twenty-first century. The topic will vary dependent on the student's interests, goals and objectives as discussed with faculty. Students under the direction of an instructor complete individually designed projects addressing major trends and issues in their emphasis area of nursing and health care delivery.

NURS 05509: Clinical Nurse Leader Role 3 s.h.
Prerequisites: Minimum GPA of 3.0: NURS 03504 ANDNURS 03505 AND NURS 03503 AND NURS 05501 ANDAH 05501 AND NURS 05507 AND NURS 05508 ANDLICENSED AS A REGISTERED NURSE (R.N.) AND BSN
This course immerses the student in the role of the Clinical Nurse Leader. The Clinical Nurse Leader (CNL) is a master's prepared nurse who delivers expertise in care as a generalist. The CNL manages care for patients, individuals, families, and communities. The CNL functions as a provider and manager for care at the point of system entry and strives to produce quality based outcomes. This course discusses the role of the clinical nurse leader as leader, outcomes manager and care environment manager. The graduate student, through participatory learning, will master the key concepts that are imperative to the successful transition into the CNL role.

NURS 05510: Evidence Based Practice In Illness/Disease Management 3 s.h.
Prerequisites: Minimum GPA of 3.0: NURS 03504 ANDNURS 03505 AND NURS 03503 AND NURS 05501 ANDAH 05501 AND NURS 05507 AND NURS 05508 ANDLICENSED AS A REGISTERED NURSE (R.N.) AND BSN
Evidence based practice in illness and disease management is a requirement for quality care delivery. This course serves as one of the mandatory courses in the clinical nurse leader track. This course discusses care management, client outcomes, application of assessment, pharmacology, and pathophysiology to specific disease states, and evidence-based practice.

NURS 05511: Clinical Nurse Leader Practicum I 4 s.h.
Prerequisites: NURS 05509 AND NURS 05510
This course prepares the graduate nursing student for the full clinical implementation of the Clinical Nurse Leader role. Concepts of care environment management are discussed and explored in the clinical setting. Through and interwoven marriage of didactic and clinical experience, the registered nurse will begin to experience the role of the Clincal Nurse Leader. 200 Clinical Hours Required

NURS 05512: Clinical Nurse Leader Practicum II 4 s.h.
Prerequisite: NURS 05511
The Clinical Nurse Leader (CNL) is a master's prepared nurse who delivers expertise in care as a generalist. The CNL manages care for patients, individuals, families, and communities. The CNL functions as a provider and manager for care at the point of system entry and strives to produce quality based outcomes. This course prepares the graduate nursing student for the full clinical implementation of the Clinical Nurse Leader role. Through an interwoven marriage of didactic and clinical experience, the registered nurse will experience the role of the Clinical Nurse Leader. 200 Clinical Hourse Required

NURS 05513: Nursing Curricular Design and Evaluation 3 s.h.
Prerequisite(s): Successful completion of CORE MSN courses with minimum GPA of 3.0, NURS 05502, NURS 05506
Nurse educators are responsible to develop curricular plans that reflect contemporary health care trends. Curricular plans should hinge upon realistic program outcomes that prepare graduates to function effectively in the health care environment. This course explores curricular design, program outcomes, and robust changes in response to curricular evaluation.

NURS 05514: Nurse Educator: Leadership, Quality, and Planned Change in the Practice Environment I 3 s.h.
Prerequisite(s): NURS 05502 and NURS 05506
The nurse educator must be aware of the political, institutional, social and economic factors that impact the role. This course introduces the nurse educator student to concepts of competence, self-assessment, quality improvement and scholarship within the educational environment. Nursing theory and nursing research are presented as a focus for clinical practice implications. The student is provided the opportunity to analyze nurse education and identify an area of practice interest by exploring various roles, such as nurse education at bedside, nurse educator in technical setting, and nurse educator in academia.
100 clinical hours required

NURS 05515: Nurse Educator: Leadership, Quality, and Planned Change in the Practice Environment II 4 s.h.
Prerequisite(s): NURS 05514
This course serves as the final comprehensive nurse educator course. All course activities are based upon the eight competencies of a nurse educator defined by the National League of Nursing (NLN) and supported by the American Association of the College of Nursing (AACN). Through ongoing faculty tutelage the graduate student completes eight competency projects. In addition, clinical submersion in the role of nurse educator occurs in a precepted environment.
200 clinical hours required

NURS 05516: Epidemiology Health Promotion & Disease Management 2 s.h.
Prerequisite: Completion of the core MSN course with a GPA of 3.0 or higher and admission into a Nurse Practitioner specialization
This course introduces the graduate nursing student to the concepts of epidemiology and population based medicine. Theories of wellness, health promotion and global opportunities for healthy living are presented. Through synthesis of these concepts the advanced practice nursing student will develop a theory of practice that incorporates health promotion throughout the lifespan. This course examines the relation of human groups to their environments as mediated by culture.

NURS 05517: Nurse Practitioner Role: History, Practice Regulations, Reimbursement and Ethics 2 s.h.
Prerequisite: Completion of the core MSN course with a GPA of 3.0 or higher and admission into a Nurse Practitioner specialization
This course will investigate the role of the nurse practitioner from a historical perspective with implications to current practice requirements. The nurse practitioner student will investigate the history of their specialty nurse practice, the regulations that apply to their specialty nurse practice, their role as a leader and advocate. A synthesis of this information that incorporates evidence based practice initiatives will occur. Special emphasis on ethical and cultural diversity and considerations about age variations, cultural variations, religious variations, health promotion and diversity across the lifespan will assist nurse practitioner students in developing their practice own practice philosophy.

NURS 05518: AGACNP: Assessment, Diagnosis, & Differential Disease Management 1 s.h.
Prerequisite: Completion of the core MSN courses with a GPA of 3.0 or higher and admission in the Adult-Gerontology Acute Care Nurse Practitioner specialization
This course challenges the nurse practitioner student to apply previously obtained advance assessment techniques to technologically derived data to differentiate conditions in acutely ill patients. Interpretation of relevant data, radiographs, and electrocardiographs will be presented. Condition treatment plans will be discussed in relation to available acute care settings. Laboratory practice will occur and include procedures commonly encountered in the acute setting.
The student who does NOT meet the clinical requirements will receive a failing grade in this course regardless of the course work evaluation scores.
25 clinical hours

NURS 05519: AGACNP I: Evidence Based Clinical Care for Adult Gerontological Acute Care Nurse Practitioner 3 s.h.
Prerequisite(s): NURS 05518
This course introduces the AGACNP student to key concepts in the management of acutely ill individuals across the adult lifespan. All information is presented via case study format. The graduate student will apply evidence based practice, and diagnostic reasoning when developing the treatment plan. The need to organize advanced assessment, diganostic interventions, and caring practices will be illuminated. Disease specific conditions are presented with a focus on pathophysiology and advanced therapeutics. This is the first of three clinical practice courses. Successful course completion is defined as success in both the didactic and clinical portions of the course.
The student who does NOT meet the clinical requirements will receive a failing grade in this course regardless of the course work evaluation scores.

NURS 05520: AGACNP II: Evidence Based Clinical Care for Adult Gerontological Acute Care Nurse Practitioner 4 s.h.
Prerequisite(s): NURS 05519
This course investigates medical conditions encounterd by the acutely ill adult across the lifespan. Special consideration is given to medically challenging cases and mental health disorders. The AGACNP student will analyze data and develop evidence based treatment plans. The challenges to perform in a collaborative environment and partner with patients, families and communities will be discussed. Topics for future nurse practitioner researcher will be discussed. The student will be submersed in clinical practice with an experienced preceptor.
The student who does NOT meet the clinical requirements will receive a failing grade in this course regardless of the course work evaluation scores.

NURS 05521: AGACNP III: Evidence Based Clinical Care for Adult Gerontological Acute Care Nurse Practitioner 4 s.h.
Prerequisite(s): NURS 05520
This course investigates surgical conditions encountered by the acutely ill adult across the lifespan. Special consideration is given to challenging cases and traumatic injuries. The AGACNP student will analyze data and develop evidence based treatment plans. The ethical dilemmas presented by acute injury and advanced age will be discussed. Reimbursement and quality improvement initiatives will be presented. Topics for future nurse practitioner researcher will be discussed. The student will be submersed in clinical practice with a experienced preceptor.
The student who does NOT meet the clinical requirements will receive a failing grade in this course regardless of the course work evaluation scores.

NURS 05522: Family Nurse Practitioner I: Primary Care of the Adult Patient and Older Adult Patient 3 s.h.

Prerequisite(s): Completion of the core MSN courses with a GPA of 3.0 or higher and admission into the Family Nurse Practitioner specialization

This course focuses on the role of the APN in the primary care of the adult and older adult. Utilizing lectures, assigned readings, and case studies the advanced practice student will incorporate advance assessment skill to formulate differential diagnoses of a variety of acute and chronic conditions that inflict the adult and older adult client. Conditions discussed in this course focuses on the Skin, Head, Eyes, Ears, Nose and Throat, Heart and Lungs. Clinical judgment skills will be developed to select proper pharmacological and non-pharmacological therapies of management. Concentration of the aspects of health promotion and disease prevention will be highlighted. Clinical portion will emphasize didactic components of the course and apply them to episodic and chronic problems of the adult and older adult.
100 clinical hours

NURS 05523: Family Nurse Practitioner II: Primary Care Management of the Adult Patient and Older Adult Patient 3 s.h.

Prerequisite: NURS 05522

This course focuses on the role of the APN in the primary care of the adult and older adult. Utilizing lectures, assigned readings, and case studies the advanced practice student will incorporate advance assessment skills to formulate differential diagnoses of variety of acute and chronic conditions that inflict the adult and older adult client. Conditions discussed in this course will address the gastrointestinal, hepatobiliary, neurology, renal and urinary, and reporductive systems. Issues of Mental Health such as anxiety, depression, bipolar, eating and substance abuse will also be brought into focus. Clinical judgment skills will be developed to select proper pharmacological and non-pharmacological therapies in the management of these conditions. Concentration of the aspects of health promotion and disease prevention will be highlighted. Clinical portion will emphasize didactic components of the course and apply them to episodic and chronic problems of the adult and older adult.

NURS 05524: Family Nurse Practitioner III: Primary Care Management of the Female Patient 4 s.h.

Prerequisite: NURS 05523

The course build upon the current knowledge from primary care management of the adult and older adult I and II and extending its focus to the issue of women's health issues. Using lecture, assigned readings and case studies, the didactic compnent of this course will focus on episodic and chronic disease facing woman from diverse populations from menarche throughout the postmenopausal stage. Care management concepts of the pregnant client will also be introduced. Course content will also reflect prescribing practices in relation to the pharmacodynamics and pharmacokinetics that can affect pregnant and lactating women. Clinical hours will reinforce the didactic element of the class incorporating skills of assessment, differential diagnosis, and evidence base practice to provide optimal obsterical and gynecological care of the female client.

NURS 05525: Family Nurse Practitioner IV: Primary Care Management of Children and Adolescents 4 s.h.

Prerequisite: NURS 05524

This course focuses on the primary care of the infant, child and adolescent population. Developmental and culturally competent health assessment is a key component of the course. Utilizing these skills the advanced practice student will learn thru lecture, assigned readings and case studies how to develop differential diagnoses in order to plan, implement and manage common acute and chronic health problems of the pediatric/adolescent client. Clinical hours will reinforce the didactic component of the class in addition to concentrating on evidence based practice to address the needs of this population.

NURS 05526: Family Nurse Practitioner V: Practicum in Family Practice 4 s.h.

Prerequisite: NURS 05525

This is a clinical immersion practicum that is a culmination of the learning experience for the family nurse practitioner student. Its purpose is to allow the students the opportunity to provide comprehensive health care to diverse clients across the lifespan. Successful completion will entail the ability for the student to completely demonstrate the use of theory, evidence-based practice in assessing, diagnosing, and treating clients. Students will be able to provide cost-effective and safe family based care integrating concepts of health promotion and disease prevention. Monthy meetings with assign faculty will occur within this clinically focused course to identify problems and answer relevant questions.

NURS 05527: Adv Dev, Hlth Asmt, Wellness, Hlth Promotion & Disease Prvntn of the Infant, Child, and Adolescent 3 s.h.

Prerequisite(s): Admission into Acute Care Pediatric Nurse Practitioner Specialty and 100 Clinical Hours

This course focuses on the role of the Acute Care in the health assessment, advanced development, wellness, health promotion and disease prevention of the infant, child and the adolescent. Utilizing lectures, assigned readings, laboratory expereinced, clinical solutions and case studies the advanced practice pediatric student will utilize advance assessment skills to promote health and wellness in the infant, child and adolescent. This course will focus on the health assessment of infant's, children and adolescent. Disease prevention will be a focus to promote optimal health in the infant, child and

adolescent. The clinical component will integrate concepts discussed in the class and apply them to the patient population in welll baby and pediatric situations.

NURS 05528: Advanced Chronic Care of the Infant, Child and Adolescent in the Health Care System 3 s.h.

Prerequisite(s): NURS 05527 and 150 Clinical Hours

This course focuses on the role of the Acute Care Pediatric Nurse Practitioner in the care of the infant child and adolescent in the health care system with chronic conditions. Chronic health conditions will be reviwed in relation to each body system. The pharmacological interventions for each condition will be explored and evaluated. Utilizing lectures, assigned readings, laboratory experiences, clinincal situations and case studies the advanced practice pediatric student will implement evidenced based practice to care for the infant, child and the adolescent with chronic health care deviations. The clinical component will integrate concepts discussed in class and apply them to the patient population.

NURS 05529: Advanced Acute Care of the Infant, Child and Adolescent in the Health Care System 3 s.h.

Prerequisite(s): NURS 05528 and 150 Clinical Hours

This course focuses on the role of the Acute Care Pediatric nurse practitioner in the care of the infant, child and adolescent in the treatment of acute health care deviations. Acute health conditions will be reviewed in the relation to each body system. The pharmacological interventions for each condition will be explored and evaluated. Course content relates to the acute health care problems in infants, children and adolescent and their impact on the family. Incorporating evidenced based research, a family-centered perspective, care is provided which includes psychosocial factors, and ethical considerations. Utilizing lectures, assigned readings, laboratory experiences, clinical situations and case studies the pediatric nurse practitioner will prescribe and provide care based on outcomes. The clinical component will integrate concepts discussed in class and apply them to the patient population in well baby and pediatric situations.

NURS 05530: Advanced Clinical Care for the infant, child and adolescent in the community and medical home 4 s.h.

Prerequisite(s): NURS 05529 200 Clinical hours The student who does NOT meet the clinical requirements will receive a failing grade in this course regardless of the course work evaluation scores.

This course focues on the care provided to the infant, child and adolescent in the community and medical home. THis course provides the Acute Care Pediatric nurse practitioner with the ability to synthesize and integrate the knowledge, skills, and attitudes important to providing care for infant, child, and adolescent and the community in which they live. The course emphasizes the importance of a holistic perspective and an understanding of the client and family as individuals with diverse spiritual and cultural needs and expectations and as a member of the community. Synthesis and analysis of previously learned concepts will provide the student with the opportunities to recognize their own feelings, needs, and issues regarding care, and issues pertaining to end of life while addressing the multicultural needs of the infant, child and adolescent while addressing health care disparities. Content includes societal, physical, psychological, ethical, and spiritual aspects of life and death. The pharmacological interventions will be explored and evaluated individually. Course content relates to the health care problems in infants, children and adolescent and their impact on the community. Incorporating evidenced based research, a family-centered perspective, care is provided which includes psychosocial factors, and ethical considerations. Utilizing lectures, assigned readings, laboratory experiences, clinical situations and case studies the Acute Care Pediatric nurse practitioner will prescribe and provide care based outcomes.

NURS 05539: Screening of Women throughout the Lifespan & Health Promotion: Genetics, Diagnostics & Interventions 1 s.h.

Prerequisite(s): Completion of the core MSN courses with a GPA of 3.0 or higher and admission into the Women's Health Nurse Practitioner specialization. (50 Clinical hours) The student who does NOT meet the clinical requirements will receive a failing grade in this course regardless of the course work evaluation scores.

This course focuses on the role of Women's Health Nurse Practitioner in the health assessment, advanced development wellness, health promotion and disease prevention of the female patient throughout the lifespan in health, pregnancy, post-partum, and acute/chronic illness. Utilizing lectures, assigned readings, laboratory experiences, clinical practicum and case studies the advanced practice will utilize advance assessment skills to promote health and wellness of the female across the lifespan. The clinical component will integrate and apply concepts to the female patient population. Through active clinical learning the student will apply newly acquired knowledge.

NURS 05540: Primary Care for the Women's Health Nurse 3 s.h.

Prerequisite(s): NURS 05539 100 Clinical hours The student who does NOT meet the clinical requirements wil receive a failing grade in this course regardless of the course work evaluation scores.

The course builds upon the current knowledge from screening of women throughout the lifespan and health promotion. Students perform comprehensive assessment of the female client to determine normal, benign variants and disease processes. Based upon assessment plans are formulated and prioritized by differential diagnosis. The student applies knowledge in the clinical setting and demonstrates the ability to deliver effective primary care to females. This care is evidenced based, culturally sensitive, and includes health promotion and disease management.

NURS 05541: Evidence Based Practice for Women's Health and Gynecological Issues Across the Lifespan 4 s.h.

Prerequisite(s): NURS 05540 200 Clinical hours The student who does NOT meet the clinical requirement will receive a failing grade in this course regardless of the course work evaluation scores.

This course focuses on the role of the Women's Health Nurse Practitioner in providing evidence based care to women expereincing gynecological issues across the lifespan. Utilizing lectures, assinged readings, laboratory experiences, clinical practicum and case studies the advanced practice student will utilize advance assessment skills to promote health and wellness of the female across the lifespan. This course will focus on the health assessment of the female across the lifespan. The clinical component will integrate and apply concepts to the female patient population. Through active clinical learning the student will apply newly acquired knowledge.

NURS 05542: Evidence Based Practice for Women's Health/Obstetrics: The Pregnant Woman, Fetus, Neonate and Family 6 s.h.

Prerequisite(s): NURS 05541 200 Clinical hours The student who does NOT meet the clinical requirements will receive a failing grade in this course regardless of the course work evaluation scores.

This course focuses on the role of the Women's Health Nurse Practitioner in providing evidence based care to women experiencing pregnancy. Utilizing lectures, assigned readings, laboratory experiences, clinical practicm and case studies that advanced practice student will utilize advance assessment skills to promote health and wellness of the pregnant female. The clinical component will integrate and apply concepts to the female patient population. Through active clinical learning the student will apply newly acquired knowledge.

NURS 05543: Evidence Based Practice Clinical Course 2 s.h.

Prerequisite(s): NURS 05503 and NURS 05510 40 Clinical hours and Clinical project

Evidence-based practice in illness and disease management is a requirement for quality care delivery. This course supports the student through the development, implementation, and evaluation of an evidence-based practice project in the clinical setting. This course requires successful completion of 40 clinical hours and a clinical project.

PHIL 09110: The Logic Of Everyday Reasoning 3 s.h.

This course in informal logic aims at improving the student's reasoning through a thorough exposure to common logical fallacies as these appear in ordinary language, and through a study of rational procedures for problem-solving. Students have opportunities for extensive practice at discovering and overcoming their own logical faults in writing and speech as well as practice at rational problem-solving.

PHIL 09120: Introduction To Philosophy 3 s.h.

This basic course in the methods of philosophical inquiry investigates how these methods have been applied to selected philosophical issues by classical and contemporary philosophers.

PHIL 09130: Introduction To Symbolic Logic 3 s.h.

This course provides students with a working familiarity with the principles and procedures involved in deductive logic.

PHIL 09241: Philosophy And Society - Wi 3 s.h.

Prerequisites: COMP 01112

Same as PHIL09.240, but meets general education writing intensive guidelines with a variety of graded and ungraded writing assignments.

PHIL 09310: Aesthetics 3 s.h.

Prerequisite: at least one PHIL 09 course, or more than one Arts course (ART, ARHS, MUS, MUSG, THD, RTF).

This course offers students an approach to such philosophical issues as the nature; the role of the arts in human culture; and the articulation of criteria for interpretation and criticism. Students will refine their own approach to these issues by attending to specific works of poetry, fiction, drama, music, painting, sculpture, and other arts, including student works.

PHIL 09325: American Philosophy 3 s.h.

This course examines the thought of selected American philosophers from the colonial period to the present. It stresses the distinctive American philosophical movement, Pragmatism, and some of its representative figures such as Charles Sanders Peirce, William James and John Dewey.

PHIL 09328: Philosophy And Gender 3 s.h.

This course will explore philosophical issues relating to gender as considered by classical, modern and contemporary philosophers. Recent work by feminist philosophers will be emphasized.

PHIL 09370: Epistemology 3 s.h.
This course addresses philosophical questions concerning the nature of knowledge. Some of these questions include: How can we be sure that our knowledge of the world is accurate? What is the relation of evidence to our understanding of the world? What distinguishes mathematical knowledge from scientific and ethical knowledge? Students will study and criticize both traditional and contemporary approaches to the understanding of knowledge. Students will also develop and refine their own views in response to these issues.

PHRE 11490: Senior Seminar In Philosophy And Religion 3 s.h.
This captone course for the Philosophy and Religion major engages students in advanced level work in the disciplines of philosophy and religion studies, by focusing on a particular topic of the instructor's choice. Students complete individual projects. Required for Philosophy and Religion majors.

REL 10200: Religions Of The World 3 s.h.
This course surveys the major world religions in both the Eastern and Western traditions.

REL 10210: Religion In America 3 s.h.
This course explores the wide variety of religious movements that have existed and continue to exist in America. Both traditional religions and cults are considered within the context of American culture.

ASTR 11520: SEL TOP IN SPACE SCIENCE 3 s.h.

ASTR 17520: Selected Topics In Earth And Space Science 3 s.h.
A three-part course: (A) the importance of astronomy to society, (B) the climates of the Earth and the factors controlling them, (C) forces operating within and upon the surface of Earth. This course may not be offered annually.

PHSC 01532: PHYS SCI ACTIV FOR TEACHERS 3 s.h.

PHYS 00150: Physics Of Everyday Life (Lecture and Lab) 4 s.h.
The goal of this course is to expose students with a non-science background to physics. The students will experience the excitement of physics by examining phenomena of our everyday environment. The historical development of such ideas will be studied as well. Topics selected for study include Mechanics, Matter, Heat, Sound, Light, Electricity, Magnetism, Atomic and Nuclear Physics. Physics will be communicated conceptually rather than mathematically.

PHYS 00210: Physics I Without Calculus (Lecture and Lab) 4 s.h.
Prerequisites: Score of at least 60 on CLM OR MATH 01122 OR MATH 01130 with concurrent registration allowed OR MATH 01140 with concurrent registration allowed
This course studies the principles of mechanics, heat, and fluids. Calculus is not used. The course emphasizes problem work involving the use of Algebra, Trigonometry, and Geometry.

PHYS 00211: Physics II Without Calculus (Lecture and Lab) 4 s.h.
Prerequisite: PHYS 00210 or PHYS 00220
This course studies the basic principles of electricity, magnetism, and light. Calculus is not used. The course emphasizes problem work involving the use of Algebra, Trigonometry, and Geometry.

PHYS 00220: Introductory Mechanics (Lecture and Lab) 4 s.h.
Co/Prerequisite: MATH 01130 or Math 01140
This course studies the basic principles or mechanics and is equivilant to most calculus based introductory mechanics courses often entitled Physics I. The course is designed to cover introductory mechanics. (Newton's laws, energy and momentum conservation, rotating systems, statics, gravity and simple harmonic motion) at a level appropriate for future scientists and engineers. The course includes a laboratory component and it emphasizes problem-solving techniques.

PHYS 00221: Introductory Thermodynamics, Fluids, Waves, & Optics (Lecture and Lab) 4 s.h.
Prerequisite: PHYS 00220Corequisite: MATH 01131 or MATH 01141
This introductory course studies the basic principles of thermodynamics, fluids, waves, and optics and their application. The concepts will be applied through problem solving and laboratory experiences. A large portion of the content of this course builds from the concept of conservation of energy covered in the introductory mechanics course. The course is required for any physical science major and recommended for those majoring in biochemistry, chemistry, biology, engineering, or mathematics. The specific topics covered include elastic properties of materials, fluid mechanics, mechanical waves, sound, conduction of heat, kinetic theory of gasses, the laws of thermodynamics, light, geometric optics, interference and diffraction.

PHYS 00222: Introductory Electricity & Magnetism (Lecture and Lab) 4 s.h.
Prerequisite: PHYS 00220Corequisite: MATH 01131 or MATH 01141
This course studies the basic principles of electricity and magnetism and is equivalent to most calculus based introductory electricity and mmagnetism courses often entitled Physics II. The course is designed to cover introductory electricity and megnetismmagnetism (charge, current, potential, fields, AC and DC circuits, Maxwell's Equations, and electromagnetic waves) at a level appropriate for future scientists and engineers. The course includes a laboratory component and it emphasizes problem-solving techniques.

PHYS 00300: Modern Physics (Lecture and Lab) 4 s.h.
Prerequisites: (MATH 01131 or MATH 01141) AND(PHYS 00211 or PHYS 00222)
This course covers modern physics developed since the turn of the 20th century. After a review of some classical physics, course topics include special relativity, wave and particle aspects of radiation, matter waves, models of the atom, ionization, spectra, x-rays, and introductory quantum theory. It also covers theories developed by Planck, Einstein, Rutherford, Bragg, Bohr, Compton, de Broglie, Pauli, Schrodinger and Heisenberg.

PHYS 00310: Analytical Mechanics 4 s.h.
Prerequisite: PHYS 00300
This course teaches students Newtonian, Lagrangian and Hamiltonian formulations of mechanics, and their applications to such problems as Central Force Motion, Linear and Nonlinear Oscillations, Collisions between particles, Noninertial Systems, Coupled Oscillations and Normal Coordinates, and Rigid Bodies.

PHYS 00320: ELECTRICITY & MAGNETISM I 4 s.h.
Prerequisite: 00300
This course studies classical electro-magnetism. Its topics include: the laws of electromagnetic force, Maxwell's equations, electromagnetic induction, interaction of currents, and electromagnetic energy and waves. This course may not be offered annually.

PHYS 00330: Mathematical Physics 3 s.h.
Prerequisite: PHYS 00300
This introductory course studies topics as they apply to physics: infinite series, complex numbers, determinants and matrices, partial differentiation, vector calculus, Fourier series. Certain more advanced topics may be treated: calculus of variations, gamma and beta functions, coordinate transformations, tensor analysis, functions of a complex variable, Legendre polynomials and Bessel functions. This course may not be offered annually.

PHYS 00340: Optics And Light (Lecture and Lab) 4 s.h.
Prerequisite: PHYS 00300
This course studies the nature and propagation of light, dispersion, reflection and refraction at plane and spherical surfaces, lenses (thin and thick), aberrations of lenses and mirrors, optical instruments, polarization, diffraction and photometry. It also discusses modern developments and techniques (such as fiber optics, lasers, holography). This course may not be offered annually.

PHYS 00360: Biophysics I (Lecture and Lab) 4 s.h.
Prerequisites: PHYS 00300 or BIOL 01203 or BIOL 01202 andPHYS00211 or PHYS 00221 or PHYS 00222
This course is aimed at understanding the physics of biological systems. The goal of the course is to quantitatively define biological systems and their functions. Key emphasis will be placed on (1) understanding theories, laws, and axioms that govern systems and their behavior and (2) the use of physics to determine quantitative information about systems and their behaviors. For each topic, the basic laws of physics will be reviewed followed by their application to specific biomolecular and biological system examples. the laboratory component is aimed at giving students hands-on expierience in measurement and observation for biological systems.

PHYS 00410: Quantum Mechanics I 4 s.h.
Prerequisite: PHYS 00300
This course will serve as an introduction to quantum mechanics. Students will learn the basic concepts of quantum mechanics and how to solve simple problems using quantum mechanics. Topics selected for study include the origins of quantum mechanics, the free particle in wave mechanics, particles in one-dimensional potentials, the axiomatic formulation of quantum physics, particles in three-dimensions, spin and the Pauli exclusion principle.

PHYS 00430: Statistical Physics 3 s.h.
Prerequisite: PHYS 00300
The student will study in detail the laws of thermodynamics. The statistical derivation of these laws will be presented. Topics include: ideal gases, classical and quantum distribution functions, phase transitions, and other special topics.

PHYS 02527: Statistical Mechanics 3 s.h.
The student will consider the laws of thermo dynamics from a statistical point of view. Topics may include: ideal gases, simple thermodynamic systems, classical and quantum distribution functions, phase transitions, and other special topics. The requirements for this course include a graduate laboratory project and/or research paper. Admission to the course will be at the discretion of the graduate advisor.

PHYS 02528: Electricity And Magnetism I 4 s.h.
This course studies static fields and charges and the application of vector calculus to electricity and magnetism. Maxwell's equations are derived from basic electrostatic phenomena. Some of the immediate consequences of Maxwell's equations, such as electromagnetic waves, will also be covered. The requirements of this course include a graduate research paper or a laboratory project. Admission to the course will be at the discretion of the graduate advisor.

PHYS 02529: Electricity And Magnetism II 3 s.h.
In this course, some of the major consequences of Maxwell's equations, such as the generation and propagation of electromagnetic waves, scattering, and special relativity will be explored. A special attention will be given to the connection of electricity and magnetism with relativity. The requirements of this course include a graduate laboratory project or research paper. Admission to the course will be at the discretion of the graduate advisor.

PHYS 02530: Applied Physics Lab 4 s.h.
This course introduces modern experimental techniques commonly used in physics. Projects consist of original experimental research experiences in Solid State Physics, Laser Physics, and/or other experimental areas of current research in the department. Experimental results are correlated with existing theories. Technical writing and presentation skills are developed and evaluated.

PHYS 02541: Quantum Mechanics I 4 s.h.
This course will serve as an introduction to quantum mechanics. Students will learn the basic concepts of quantum mechanics and how to solve simple problems using quantum mechanics. Topics selected for study include the origins of quantum mechanics, the free particle in wave mechanics, particles in one-dimensional potentials, the axiomatic formulation of quantum physics, particles in three-dimensions, spin and the Pauli exclusion principle. The requirements of this course include a graduate research paper or a laboratory project.

PHYS 02542: Quantum Mechanics II 3 s.h.
This course is a continuation of Quantum Mechanics I. Students will learn more advanced concepts and problems in quantum mechanics. Topics selected for study include the formalism of quantum mechanics, particles in three-dimensions, spin and angular momentum, quantum statistical mechanics, time-independent perturbation theory, time-dependent perturbation theory, and scattering. Some topics may overlap with the ones in Quantum Mechanics I, but are taught at a higher level. The requirements of this course include a graduate research paper or a laboratory project.

PHYS 02555: Mechanics 4 s.h.
Emphasizes Newton's laws of motion, the conservation laws, kinetics and reactions, calculation of moments of inertia, periodic motion and heat. Theories and principles will be related to the motion and properties of gross bodies, and the relevance of these ideas to modern atomic physics will be pointed out. The requirements of this course include a graduate laboratory project and/or research paper. Admission to the course will be at the discretion of the graduate adviser. This course may not be offered annually.

PHYS 02599: INDEP STUDY PHYS SCI 3 s.h.

ECON 04101: An Introduction To Economics-A Macroeconomic Perspective 3 s.h.
This course analyzes the overall level of economic activity in the United States and examines its major determinants, public stabilization policies, economic growth and international trade.

ECON 04102: An Introduction To Economics-A Microeconomic Perspective 3 s.h.
This course analyzes resource allocation among alternative uses. It studies consumer demand, product and factor price determination, general equilibrium and optimal income distribution.

EDPA 02490: Public Service Internship 3 to 12 s.h.
Prerequisites: EDPA 02320 or POSC 07300 or POSC 07303
Students are provided with an opportunity to get first-hand experience in government administration and related political processes through work in a variety of public settings (government agencies, public officials' offices, law firms, etc.).

POSC 07100: Introduction To Government And Politics 3 s.h.
Professors who teach this course will normally focus on some, but not all, of the following topics: political and governmental structures, functions, and processes; political behavior; public law and public policy; and political values or philosophies.

POSC 07110: American Government 3 s.h.
This course focuses on the American Federal government, emphasizing the structure, operation and processes of our political system. Coverage will include political values as they are reflected in major public policies.

POSC 07360: Methodology And Statistics In Political Science Research 3 s.h.
Prerequisites: POSC 07360 prerequisite General Requirements:
This course considers the varied ways that political scientists study problems, with primary attention to scientific method and quantitative skills. Students are expected to become adept at using and interpreting forms of descriptive statistics commonly used in the social sciences.

CMS 05381: PSYCHOLINGUISTICS 3 s.h.

PSY 01106: Psychology Of Scientific Thinking 3 s.h.
Prerequisites: PSY 01107
Students will be introduced to the methods of science and the role that science plays in the understanding of how the world works. The development of critical thinking skills and an evidence based approach to evaluating scientific claims will be emphasized. Students will also be introduced to the psychological processes that underlie the scientific method and the persistence of belief in pseudoscientific and non-scientific claims.

PSY 01107: Essentials Of Psychology 3 s.h.
Students will be introduced to psychology, the scientific study of behavior. This course will highlight the key areas in psychology that help to explain human behavior. This course will include discussion of diverse topics such as, perception, learning, thinking, memory, motivation, emotion, stress, and health, personality, physiological processes, psychological disorders and treatment, development, intelligence, and social psychology.

PSY 01230: Psychology Of Personality 3 s.h.
Prerequisites: PSY 01100 or PSY 01107
Students study major theories of personality and techniques for measuring personality. Personality is that field of psychology that investigates the predispositions or inherited characteristics and the acquired or learned qualities that affect an individual.

PSY 01316: Behavioral Assessment And Measurement 3 s.h.
Prerequisite: PSY 02310
This course provides students with the knowledge and skills needed to conduct behavioral assessments and choose appropriate target outcomes and intervention strategies. Additionally, students will learn to objectively measure behavior, display data graphically, and experimentally evaluate the effectiveness of behavioral interventions. This course is one of the courses required for the Specialization in Behavioral Services for Children and Their Families in the psychology department.

PSY 01424: Professional Issues In Applied Behavior Analysis 3 s.h.
Prerequisites: PSY 02310 and PSY 01316Corequisite: PSY 02305AND Complete a Board Certification in Behavior Analysispractice exam
This course is a capstone course in Specialization for Behavioral Services for Children and their Families, providing an in-depth overview of innovative and empirically validated behavior assessment and intervention techniques aimed at promoting system-wide change. Students will be exposed to professional development as behavior analysts including ethical issues, career options and responsibilities, and development of clinical skills.

PSY 01425: Fieldwork in Applied Behavior Analysis 3 s.h.
Prerequisites: PSY 02305, PSY 01316
Students should be matriculated in the Specialization for Behavioral Services for Children & Families OR the Post-Baccalaureate in ABA to enroll in this course due to limited enrollment. Students are assigned placements in applied settings under the supervision of a Board Certified Behavior Analyst (BCBA) to gain experience in the design and implementation of behavioral interventions. Students are required to complete 150 hours of supervised fieldwork in their assigned placements.

PSY 01500: Professional Skills for Behavior Analysts 3 s.h.
Prerequisites: Matriculation into the MA in ABA.
This course introduces students to the professional standards of the field of applied behavior analysis. This course emphasizes essential skills and strategies that students need to be successful professional behavior analysts. Topics include vital work habits, interpersonal relationships, business skills, applying behavioral knowledge, consulting repertoires, introduction to professional and scientific writing, and professional service. This course is the first course to be taken in the MA in the ABA program and will be offered annually.

PSY 01501: IND STUDY PSYCH 3 to 6 s.h.

PSY 01510: Philosophy, History, and Conceptual Foundations of Behavior Analysis 3 s.h.
Prerequisites: Matriculation in the Master of Arts inApplied Behavior Analysis.
The course provides an in-depth examination of the philosophical and conceptual underpinnings of behavior analytic theory. Students will evaluate how behavior analysis as a conceptual system fits in the larger historical and conceptual contexts of philosophy, science, and psychology. Applications to behavior analytic problem solving and case conceptualization in applied setting will be emphasized.

PSY 01550: Clinical Research Practicum 3 s.h.
Prerequisites: PSY 01.500 AND PSY 01.510
This graduate level course will provide students with the pre-requisite skills needed to develop an independently executed research project evaluating applied behavior analytic techniques for changing behavior. In this course, students will meet with a Faculty Advisor regularly to read and review current literature to gain an appreciation and critical understanding of research in the area of Applied Behavior Analysis. Students will also work with more senior students to get experience with recruiting participants, executing a study protocol, collecting and coding data, and analyzing and interpreting data. Finally, students will lead discussions and review literature relevant to their own independent research project. This is a required course for the Master of Arts program in Applied Behavior Analysis.

PSY 01564: Counseling Theory And Techniques I 3 s.h.
Prerequisite: Matriculation in the Master's Program in Clinical Mental Health Counseling
This course is designed to be an overview of several major theoretical approaches to psychotherapy, including: Humanistic-Existential, Behavioral, and Cognitive-Behavioral. The course will include didactic and experiential components, and will focus on developing the skills and knowledge necessary to use techniques from these theories in a professional context.

PSY 01566: Counseling Theory And Techniques II 3 s.h.
Prerequisite: PSY 09595 and PSY 01564 withgrade of B- or above
This course is designed to be an overview of several major theoretical approaches to psychotherapy, including: Psychodynamic, Systems, Cognitive, and Interpersonal. The course will include didactic and experiential components, and will focus on developing the skills and knowledge necessary to use techniques from these theories in a professional context. In addition to these general skills, the course will also focus on the application of these techniques to specific populations of interest within the psychological community.

PSY 01570: Research Methodology And Statistics In Counseling Psychology 3 s.h.
This is a graduate level introduction to research methodology and statistics with special application of these principles to the practice of mental health counseling. Students will develop the skills necessary to critically evaluate and interpret research and statistics, thus allowing them to be excellent consumers of research as well as developing practice-relevant research projects.

PSY 01572: Research Methodology And Statistics In Counseling Psychology I: Basics 3 s.h.
Prerequisite: Matriculation in the Masters Program inClinical Mental Health Counseling
This is a graduate level introduction to research methodology and statistics with special application of these principles to the practice of mental health counseling. Students will develop the skills necessary to critically evaluate and interpret research and statistics, thus allowing them to be excellent consumers of research as well as developing practice-relevant research projects.

PSY 01574: Research Methodology And Statistics In Counseling Psychology II: Applied 3 s.h.
Prerequisite: PSY 01572 with B- or above
In this graduate level course, students will learn how to apply the skills learned in Research Methodology & Statistics in Counseling Psychology I: Basic course through all of the steps required to propose an empirical project requiring either postulating a testable hypothesis and delineating the methodology used to test the hypothesis or to apply knowledge of research methodology to the empirical evaluation of counseling interventions with a single or small number of clients.

PSY 01610: Career And Lifestyle Development 3 s.h.
Advanced students will learn the major theories of career choice and development, gaining an understanding of the complex personal, organizational, and societal factors that impact upon career choice. Students will learn to understand occupational trends and occupational classification systems, and have the opportunity to study and administer various career interest batteries. Students will gain an appreciation for the changing nature of work and career focus across the life span, including predictable career transitions and challenges. Theoretical and self assessment techniques will be utilized to help students gain an understanding of the need for balance between work and personal life, and will provide insight into the theories and choices involved in leisure activity and in stress management practices. Experiential exercises and projects will be an integral aspect of the course leading to an appreciation not only of theory but of its application.

PSY 01612: Group Counseling And Psychotherapy 3 s.h.
Prerequisite: PSY 09595 and PSY 01624 withgrade of B- or above
This course addresses fundamental issues concerning the development and dynamics of group counseling and provides the student with a background in group counseling theories and methods. Issues covered include group process components, the stages of group development and leadership styles and approaches. Methods for evaluating the effectiveness of group counseling are discussed.

PSY 01615: Professional Proseminar 1 s.h.
Prerequisites: Matriculation in the Masters Program inClinical Mental Health Counseling
This seminar is intended to serve two purposes for students in the first year of training in the MA Program in Clinical and Counseling Psychology. First, students will be provided with the ability to discuss how the skills and knowledge they have acquired during their training should be integrated to form a coherent professional identity. Second, students will have the opportunity to gain more knowledge and understanding of the profession they are being trained in and how to become an active/contributing member to that profession. Current accreditation standards in the field place a particular emphasis on students developing a solid sense of professional identity, which includes knowledge of a) the history of the profession, b) current trends in the field, c) licensing and credentialing issues, and d) areas of work and influence in the field. This course will provide the vehicle for discussing and desseminating these issues.

PSY 01616: The Counseling Profession: Ethics And Professional Identity 3 s.h.
This course is designed to enrich the student's understanding of the counseling profession and the professional identity of counselors. The student will be exposed to the professional roles, functions, goals, and objectives of the counseling profession, as well as organizations and associations of the profession. Students will study the history and development of counseling as a profession and will examine current trends in counseling. Finally, the student will explore professional ethics and standards of practice (ACA, ASGW, AMHCA, NCAD) and will become familiar with professional licensure in New Jersey and national certifications (NBCC AND CCE) and with accreditations standards for counseling (CACREP). (For Summer 2011 the course is offered as web-assisted, with some content delivered online.)

PSY 01620: Legal, Ethical, and Professional Issues In Counseling 3 s.h.
Prerequisite: Matriculation in the Masters Program inClinical Mental Health Counseling
This course covers legal and ethical issues involved in the delivery of human services and counseling. Issues addressed include ethical standards for therapists, the role of the mental health professional in the legal system, and standards of ethical practice for counselors. The student will consider the possible legal consequences of treatment decisions and approaches. This course will provide an understanding of all aspects of professional functioning including history, roles, ethics, standards and credentialing.

PSY 01623: Psychopathology I: Diagnosis And Epidemiology 3 s.h.
This course reviews the diagnostic criteria for the major categories of psychopathology included in the DSM-IV-TR. The emphasis for course is reviewing the prevalence rates and differential diagnosis for the various categories. The course reviews the concepts and skills necessary to provide a five axis diagnosis for adults and children.

PSY 01624: Psychopathology II: Conceptualization And Etiology 3 s.h.
Prerequisites: PSY 01623 with B- or above
This course reviews the diagnostic criteria for the major categories of psychopathology included in the DSM-IV-TR. The course emphasizes the etiological facators for the various diagnostic categories as well as the course and prognosis for each disorder. Current research for evidence based interventions for each of the disorders will also be reviewed.

PSY 01630: Family Systems Theory And Family Therapy 3 s.h.
This graduate level course will explore the importance of family therapy in the human service delivery system. The course will emphasize several areas. First, the course will review the major theoretical approaches to family therapy as well as the foundation concepts of general system theory. Second, the skills and techniques unique to family therapy will be reviewed. This aspect of the course will utilize role plays to demonstrate specific intervention strategies. Third, the course will review assessment tools and evaluation research of family therapy. Finally, the ethical and documentation issues involved in a family therapy will be discussed.

PSY 01650: Practicum In Counseling 1 to 9 s.h.
Prerequisite: PSY 01624 and PSY 01566 andPSY 01620
Students will be placed in human service settings where they will provide, under supervision, counseling and related services. Both on-site and Psychology Department supervisors will monitor student progress. Students will work with clients to establish goals for change, employ appropriate counseling techniques and evaluate goal attainment.

PSY 01660: Practicum In Applied Behavior Analysis I 3 s.h.
Prerequisite(s): PSY 02670 and Permission of Program Advisor
In this course students are placed in a community agency to apply their knowledge and skills in applied behavior analysis. Students will be required to meet weekly with the instructor of the course.

PSY 01661: Practicum In Applied Behavior Analysis II 3 s.h.
Prerequisites: PSY 01660
In this course students are required to complete intensive supervised fieldwork in a community agency to further develop their clinical skills in applied behavior analysis. Focus will be placed on advanced assessment, intervention, and maintenance programming, treatment integrity, consultation, and staff supervision and training. Students will be required to meet weekly with the instructor of the course.

PSY 01685: Master's Thesis In Psychology I 3 s.h.
Prerequisite: PSY 01574 with B- or above
This course requires the design of an independently executed research project. The project will be supervised by a member of the Psychology Department. The student may choose a group design, single subject ABA design or Case Study for their project. The thesis will include a literature review, design of the project and the initial implementation.

PSY 01687: Master's Thesis In Psychology II 3 s.h.
Prerequisite: PSY 01685
This course requires the completion of the independently executed research project that was initiated in Masters Thesis in Psychology I. The project will be supervised by a member of the Psychology Department. Completion of the course will include the production of a comprehensive final product that needs to be approved by the student's project supervisor.

PSY 01750: Multicultural Perspectives 3 s.h.
Prerequisite: PSY 09.700
The purpose of this course is to ensure that students know and are able to define culture, assimilation, acculturation, and cultural differences, identify different types of diverty, explores challenges and benefits of diversity, recognize the problem of sterotyping, prejudice, bias, and discrimination and the ways to avoid them, and describe ethnocentrism and its relationships to diveresity. Students will gain specific competencies necessary to work effectively with an incresingly diverse population. This graduate level lcourse is required for student in the Ph.D. program in Clinical Psychology.

PSY 01850: DISSERTATION RESEARCH I 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY 03.814Thesis Research II
The purpose of this course is to for students to begin to work with their research advisors on their dissertations. At the end of this course, students are expected to have completed at least one draft of the introduction of their research proposal. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 01852: DISSERTATION RESEARCH II 1 s.h.
Prerequisites: PSY 01.850 Dissertation Research I
The purpose of this course is to for students to continue to work with their research advisors to develop a high-quality, scientifically rigorous research study. At the completion of this course, students are expected to have written a complete proposal including the introduction, background, and methodology for the study. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 01853: DISSERTATION RESEARCH III 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY01.852 Dissertation Research II
The purpose of this course is to for students to continue to work with their research advisors to develop a high-quality, scientifically rigorous research study. At the completion of this course, students are expected to have begun data collection. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 01854: DISSERTATION RESEARCH IV 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY01.853 Dissertation Research III
The purpose of this course is to for students to complete work on their dissertation research project. At the end of this course, students are expected to have completed a draft of their research project. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 02257: Psychology As A Profession And Practice 3 s.h.
Prerequisites: PSY 01.107 or both PSY 01.100 and PSY 01104
This course will introduce students to traditional and emerging applied areas in psychology, with the goal of increasing students' knowledge about how psychological information is used to impact peoples lives. In addition, students will learn how psychological knowledge can be applied in ways that allow us to better understand the individual and the broader social world. Finally, students will explore possible career paths in psychology and learn how to best prepare themselves for a career in psychology or related fields post graduation.

PSY 02305: Applied Behavior Analysis 3 s.h.
Prerequisite: PSY 02310
This course deals with the principles, procedures and utility of behavior modification in normal and clinical settings.

PSY 02310: Learning And Behavior 3 s.h.
Prerequisite(s): PSY 01107 or Matriculation in the Post- Baccalaureate Certificate in Applied Behavior Analysis.
This course provides an overview of the experimental analysis of behavior with minor attention to other theories of learning. Topics may include classical conditioning, operant conditioning, and schedules of reinforcement.

PSY 02500: Basic Principles Of Behavior 3 s.h.
This course is a graduate course in the basic principles of behavior. Course content includes the historical basis of behavior analysis, the distinction between respondent/classical and operant conditioning, and the basic principles, processes, and concepts of behavior analysis.

PSY 02510: Research Methods In Behavior Analysis 3 s.h.
Prerequisite: PSY 02500
This course provides students with the knowledge and skills to choose and implement an appropriate experimental design to evaluate the success of behavioral interventions.

PSY 02520: Assessment And Interventions For Social Skills And Relationships In Children 3 s.h.
This course is a graduate course in examining the development of social and emotional competence in children, the assessment of social skill deficits, and various interventions aimed at improving social skills and relationships in children and children with special needs.

PSY 02600: ABC's Of Applied Behavior Analysis 3 s.h.
This course provides a graduate level introduction to the field of behavior analysis. The course will cover the history of the field,behavorial assessment,and behavorial intervention. The focus of this course is on knowledge of the field and not the application of skills.

PSY 02610: APPLIED BEHAVIOR ANALYSIS 3 s.h.

PSY 02620: Behavioral Assessment & Functional Analysis 3 s.h.
Corequisite: PSY 02500
This course teaches students how to conduct a comprehensive assessment for behavior problems, to identify, with the client, the appropriate goals and objectives for intervention, to conduct the appropriate assessment techniques, and to select the appropriate measurement procedures to evaluate outcomes.

PSY 02630: Experimental Foundations of Behavior Therapy of Psychology 3 s.h.
Prerequisite: Matriculation into Ph.D. Program in Clinical Psychology
This course provides Ph.D. students in Clinical Health Psychology wioth advanced and highly specialized knowledge in the experimental analysis of human behavior, specifically as it relates to problems of clinical relevance. Students will matter the conceptural underpinnings oifo the behavior therapies through an examination of complex behavior problems from a behavior analytical and rigorously experimental perspective, including but not limited to behavioral economic, behavioral momentum, variability, Skinner's analysis of verbal behavior, and Relational Frame Theory (RFT). This course is restricted to students matriculated into the doctorial program in clinical psychology.

PSY 02660: Research Project In Applied Behavior Analysis 3 s.h.
Prerequisite: PSY 02.510 and PSY 01.550
This graduate level course requires the design of an independently executed research project evaluating applied behavior analytic techniques for changing behavior. In this course students will work from foundational skills acquired in the prerequisite course in Research Methods in Behavior Analysis (PSY 02.510) and with close instructor consultation to fully design and implement an empirical single-subject research study that will culminate in a formal research paper and presentation. This is a required course for the Master's of Arts program in Applied Behavior Analysis.

PSY 02661: SP TP APPLIED BEHAV ANALYSIS 3 s.h.
Prerequisite: PSY 02500 and PSY 01610
This course is a graduate seminar course providing in-depth coverage of special topics in the practice of Applied Behavior Analysis. Course content will reflect the most current issues involving the design and implementation of behavioral interventions for specific populations and circumstances. Course topics may include but are not limited to: verbal behavior, curriculum design for children with autism, behavioral interventions for basic life skills, behavior analysis in education, behavioral interventions for children with emotional/behavioral disorders, behavior analysis of addiction, legal issues for applied behavior analysts, early intensive behavioral intervention, and large-scale behavioral intervention.

PSY 02670: Ethics In Applied Behavior Analysis 3 s.h.
Prerequisite(s): PSY 02610 and PSY 02620
This graduate level course is required for students in the Master's of Arts program in Applied Behavior Analysis. The purpose of this course is to ensure that students know and are able to apply the Behavior Analyst Certification Board's (BACB) Guidelines for Responsible Conduct for Behavior Analysts. In addition, students will be taught the BACB Professional Disciplinary and Ethical Standards.

PSY 02680: Advanced Practice In Applied Behavior Analysis 3 s.h.
Prerequisite(s): PSY 02500 and PSY 02510 and PSY 01610 andPSY 02620 and PSY 02670 and Permission of Program Advisor
This course provides in-depth hands-on demonstration and practice of a variety of behavior analytic clinical techniques. Students will demonstrate competencies in a variety of clinical skills including those involving specific behavior change procedures, broad behavior change systems and the implementation, management, and supervision of those procedures.

PSY 02706: RESEARCH METHODS 3 s.h.
Prerequisite: Matriculation into the Ph.D. in Clinical Psychology Program.
This doctoral level course provides an overview of group research methodologies frequently used in professional psychological research. Topics covered in this course include validity and reliability, systematic observation, self report measures, sampling techniques, control and comparison groups, treatment evaluation strategies, and research ethics. This course is designed to provide students the tools to design their own research in the discipline of professional psychology as well as the ability to evaluate research generated by others. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03200: Abnormal Psychology 3 s.h.
Prerequisites: PSY 01100 or PSY 01107
Abnormal Psychology is a division of the science of psychology that investigates disordered behaviors, deficiencies in behavior capacities, and the persons exhibiting them. This course of Abnormal Psychology is concerned with the application of the methods, concepts, principles and findings of psychological research to deviant behavior. It is also concerned with perception, learning, development and social factors as related to disturbed behavior and experiences of individuals.

PSY 03205: Intake And Interviewing Skills In Psychology 3 s.h.
Prerequisites: PSY 01100 or PSY 01107
This course is designed to prepare undergraduates to be able to perform an initial interview or intake in an entry level, human service position. Topics include basic skill development, understanding of content and process in interviewing, family interviews, use of standard intake procedures, and ethical considerations in interviewing.

PSY 03274: PROFESSIONAL PROSEMINAR IV 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY 03. 723Professional Proseminar III
This is the fourth proseminar in that sequence. The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03275: PROFESSIONAL PROSEMINAR V 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY 03. 724Professional Proseminar IV
This is the fifth proseminar in that sequence. The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03276: PROFESSIONAL PROSEMINAR VI 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY 03. 725Professional Proseminar V
This is the sixth proseminar in that sequence. The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03518: Psychological Evaluation And Counseling Services To Combat Alcohol And Drug Abuse 3 s.h.
This course provides students with information needed to evaluate and counsel drug and/or alcohol dependent or addicted individuals and their families. Topics covered include strategies necessary for the coordination and delivery of intervention and referral services in a school setting.

PSY 03620: Cognitive-Behavioral Treatment Strategies 3 s.h.
This course is designed to be an overview of cognitive-behavioral treatment and theory. The course will include didactic and experiential components, and will focus on developing the skills and knowledge necessary to use cognitive-behavioral treatment in a professional context. In addition to these general skills, the course will also focus on the application of these techniques to specific populations of interest within the psychological community.

PSY 03624: Psychopathology Of Children And Adolescents 3 s.h.
This course includes relating personality theory to psychopathology, diagnostic nomenclature in child psychopathology, review of major psychotherapeutic approaches for children, techniques for working with parents and treatment facilities away from home. This course may include field trips to appropriate agencies and as well as case preparation.

PSY 03701: Assessment I: Psychometrics and Cognitive Testing 3 s.h.
Prerequisite: Matriculation into Ph.D. Program in Clinical Psychology
This course is part of the two-course sequence and provides the foundational knowledge needed to critically evaluate test measures and their uses. In additiona. students will gain exposure to a wide range of cognitive assessment tools and strategies. Students will be taught the basic assessment skills necessary to conduct an initial consultation regarding cognitive issues, test selection, standardized test administration, test scoring & interpretaation using appropriate normative data while considering cultural factors, integrative report writing, and communications of results and treatment recommendations. Students will gain also be introduced to ethical and professional issues related to cognitive assessment, and they will be expected to demostrate their skills as part of their classroom experience.

PSY 03704: Assessment II: Individual Differences and Personality 3 s.h.
Prerequisite: Grade of B- or better in PSY 03.701
This class is designed to promote an understanding of the unique individual and contextual factors that influences individual development and personality. Issues related to personality test development and use will examined in-depth. Student will have opportunities to administere, score and interpret various measures that provide information about important individual differences and personality funtioning. This course will also cover the us eof normative data and cultural factors during the assesement process. Students will gain experience with integrative report writing and the communication of results and treatment recommendations. Students will be introduced to ethical and professional issues related to personality assessment.

PSY 03710: Intervention I: Foundational Clinical Skills 3 s.h.
Prerequisites: Matriculation into the Ph.D. Program in Clinical Psychology.
The course will focus on an introduction to the pan-theoretical skills that may enhance the development of rapport in context of a therapeutic relationship between therapist and client. This course will also review mental status exams, the content areas of the initial intake interview, assessing for suicide and homicide risk, and basic conceptualization skills. Students are expected to demonstrate these skills through use of roleplays and active learning processes.

PSY 03712: Intervention II: Evidence-Based Interventions with Adults 3 s.h.
Prerequisites: Grade ofB- or better in PSY 03.710 Intervention I: Foundational Clinical Skills
This course is designed to be an overview of the major theoretical approaches to adult psychotherapy including: Behavioral, Cognitive, Humanistic-Existential, and Psychodynamic traditions. The course will include didactic and experiential components, and will expose students to the fundamental aspects of each theory and treatment approach. The ultimate goal is for students to develop the skills and knowledge necessary to use techniques from these theories in a professional context. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03715: Intervention III: Evidence-Based Interventions with Children & Adolescents 3 s.h.
Prerequisites: Grade of B- or better in PSY 03. 712Intervention II: Evidence-Based Interventions with Adults
This course provides an intensive overview of an ecological approach to child, adolescent, and family therapy. Starting with the integration of a developmental perspective into clinical practice, the material in this course reviews different models of therapy for children, adolescents, and families. The remainder of the course focuses on learning the evidence-based interventions for specific disorders unique to childhood and adolescence. Issues of prevention of mental health issues in children and adolescents are reviewed. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03717: Advanced Cognitive-Behavioral Assessment and Treatment 3 s.h.
Prerequisites: Grade of B- or better in PSY03.17 5 Intervention III: Evidence-Based Intervention with Childrenand Adolescents
This class will allow students in the Doctoral Program in Clinical Psychology to develop their skills in Cognitive-Behavioral Treatment at a deeper level and learn to apply these skills to specific populations and settings. Additionally, this class will allow students to learn specific treatment protocols for specific types of disorders and in non-traditional settings and with unique populations.

PSY 03721: PROFESSIONAL PROSEMINAR I 1 s.h.
Prerequisites: Matriculation in the Ph.D. Program in Clinical Psychology
The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03722: PROFESSIONAL PROSEMINAR II 1 s.h.
Prerequisites: Grade of tt"Passtt" inPSY 03.721 Professional Proseminar 1
The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03723: PROFESSIONAL PROSEMINAR III 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY03. 722 Professional Proseminar II
The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03724: Professional Proseminar IV 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY02. 723 Professional Proseminar III
The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03725: PROFESSIONAL PROSEMINAR V 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY 03. 724Professional Proseminar IV
Students enrolled in Doctoral Program in Clinical Psychology are required to enroll in one section of Professional Proseminar every Fall and Spring semester during their first four years in the program. This is the fifth proseminar in that sequence. The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03726: PROFESSIONAL PROSEMINAR VI 1 s.h.
Prerequisites: Grade of tt"Passtt" in PSY 03. 725Professional Proseminar V
Students enrolled in Doctoral Program in Clinical Psychology are required to enroll in one section of Professional Pro seminar every Fall and Spring semester during their first four years in the program. This is the sixth proseminar in that sequence. The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03727: PROFESSIONAL PROSEMINAR VII 1 s.h.
Prerequisites: Grade of ttttt"Passttttt" in PSY 03. 726Professional Proseminar VI
Students enrolled in Doctoral Program in Clinical Psychology are required to enroll in one section of Professional Pro seminar every Fall and Spring semester during their first four years in the program. This is the seventh proseminar in that sequence. The seminar is intended allow students to explore emerging areas and build competencies consistent with emerging trends in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend them self to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discourse and growth for students as they progress through the program. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03728: PROFESSIONAL PROSEMINAR VIII 1 s.h.
Prerequisites: Grade of 'Pass' in PSY 02.727 ProfessionalProseminar VII.
Students enrolled in Doctoral Program in Clinical Psychology are required to enroll in one section of Professional Proseminar every Fall and Spring semester during their first four years in the program. This is the eighth proseminar in that sequence. The seminar is intended allow students to exploroe emerging area and build competencies consistent with emerging trensd in clinical psychology. Additionally, students will be introduced to specific types of competencies that do not lend themself to the comprehensiveness of a traditionally structured course. Finally, the course serves as a place for professional discoursse and growth for student as they progress through the program. This cours is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03740: Professional, Ethical, and Legal Issues in Clinical Psychology 3 s.h.
Prerequisite: Matriculation into the Clinical Psychology Ph.D. program.
This course covers ethical, legal, and professional issues involved in the discipline of psychology. Students will learn about historical and contemporary issues shaping the field of psychology and the training/supervision requirements needed to ethically/legally engage in various roles. Students will be challe.nged to actively apply the AP A principles and ethical standards through a variety of exercises. State and Federal laws and regulations, including landmark legal cases, will be examined in-depth. Students will consider the possible legal consequences of their behaviors/decisions. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03742: INTRODUCTORY PRACTICUM 3 s.h.
Prerequisites: Grade ofB- or better in PSY 03.703Assessment II: Cognitive AND PSY 03.712Intervention II: Evidence-Based Interventions withAdults AND PSY 03.732 Psychopathology II:Children & Adolescents
The Introductory Practicum is designed to let students develop intake, diagnostic, and assessment skills that they have learned during the first year in the program. Students will first shadow one of the more advanced clinical students and assist them in a clinical evaluation and assessment. Following this, student will then be expected to conduct their own evaluation independently. Additional experiences may also be available. Students will also be expected to engage in regular supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03744: FOUNDATIONAL PRACTICUM I 3 s.h.
Prerequisites: Grade oftt"Passtt" in PSY03.742 Introductory Practicum
The Practicum is designed to provide students with a vehicle for obtaining practical experience and training to become competent clinical psychologists. Students will be assigned to either an internal or external practicum site. At that site, they will conduct clinical evaluations, assessments, psychotherapy and other work appropriate to the role of a clinical psychologist. The Foundation Practicum sequence is designed such that students will develop foundational clinical skills related to their clinical work. Students will also be expected to engage in regular individual and group supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03746: FOUNDATIONAL PRACTICUM II 3 s.h.
Prerequisites: Grade of tt"Passtt" in PSY03.744 Foundational Practicum I
The Practicum is designed to provide students with a vehicle for obtaining practical experience and training to become competent clinical psychologists. Students will be assigned to either an internal or external practicum site. At that site, they will conduct clinical evaluations, assessments, psychotherapy and other work appropriate to the role of a clinical psychologist. The Foundation Practicum sequence is designed such that students will develop foundational clinical skills related to their clinical work. Students will also be expected to engage in regular individual and group supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03748: FOUNDATIONAL PRACTICUM III 3 s.h.
Prerequisites: Grade oftt"Passtt" in PSY03.746 Foundational Practicum II
The Practicum is designed to provide students with a vehicle for obtaining practical experience and training to become competent clinical psychologists. Students will be assigned to either an internal or external practicum site. At that site, they will conduct clinical evaluations, assessments, psychotherapy and other work appropriate to the role of a clinical psychologist. The Foundation Practicum sequence is designed such that students will develop foundational clinical skills related to their clinical work. Students will also be expected to engage in regular individual and group supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03800: INTERMEDIATE PACTICUM I 3 s.h.
Prerequisites: Grade oftt"Passtt" in PSY 03.748Foundational Practicum III
The Practicum is designed to provide students with a vehicle for obtaining practical experience and training to become competent clinical psychologists. Students will be assigned to either an internal or external practicum site. At that site, they will conduct clinical evaluations, assessments, psychotherapy and other work appropriate to the role of a clinical psychologist. The Intermediate Practicum sequence is designed such that students will develop increasingly more complex and advanced clinical skills related to their clinical work. Students will also begin to develop skills consistent with their chosen concentrations. In addition to their clinical work, students will also be expected to engage in regular individual and group supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03802: INTERMEDIATE PRACTICUM II 3 s.h.
Prerequisites: Grade oftt"Passtt" in PSY03.800 Intermediate Practicum I
The Practicum is designed to provide students with a vehicle for obtaining practical experience and training to become competent clinical psychologists. Students will be assigned to either an internal or external practicum site. At that site, they will conduct clinical evaluations, assessments, psychotherapy and other work appropriate to the role of a clinical psychologist. The Intermediate Practicum sequence is designed such that students will develop increasingly more complex and advanced clinical skills related to their clinical work. Students will also begin to develop skills consistent with their chosen concentrations. In addition to their clinical work; students will also be expected to engage in regular individual and group supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03804: INTERMEDIATE PRACTICUM III 3 s.h.
Practicum III, 3 S.H. Prerequisites: Grade oftt"Passtt" inPSY 03.802 Intermediate Practicum II
The Practicum is designed to provide students with a vehicle for obtaining practical experience and training to become competent clinical psychologists. Students will be assigned to either an internal or external practicum site. At that site, they will conduct clinical evaluations, assessments, psychotherapy and other work appropriate to the role of a clinical psychologist. The Intermediate Practicum sequence is designed such that students will develop increasingly more complex and advanced clinical skills related to their clinical work. Students will also begin to develop skills consistent with their chosen concentrations. In addition to their clinical work, students will also be expected to engage in regular individual and group supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03812: THESIS RESEARCH I 1 s.h.
Prerequisite: Grade of B- or better in PSY 02. 706 Research Methods
The purpose of this course is for students to being to work with their research advisor on their master''s thesis. At the end of this course, students are expected to have completed at least one draft of the Introduction and Method sections of their research proposal. This course is restricted to students matriculated into the doctoral program in Clinical Psychology.

PSY 03814: THESIS RESEARCH II 1 s.h.

Prerequisite: Grade of tt"Passtt" in PSY 03.812 Thesis Research I

The purpose of this course is for students to compete their work with their research advisor on their master\'s thesis. At the end of this course, students are expected to have completed a final copy of their master\'s thesis. This course is restricted to students matriculated into the doctoral program in Clinical Psychology.

PSY 03820: ADVANCED PRACTICUM I 3 s.h.

Prerequisites: Grade oftt"Passtt" inPSY 03.804 Intermediate Practicum III

The Practicum is designed to provide students with a vehicle for obtaining practical experience and training to become competent clinical psychologists. Students will be assigned to either an internal or external practicum site. At that site, they will conduct clinical evaluations, assessments, psychotherapy and other work appropriate to the role of a clinical psychologist. The Advanced Practicum sequence is designed such that students will develop increasingly more complex and advanced clinical skills related to their chosen concentration. Students will also have the opportunity to supervise other students in the program to begin to develop their applied supervisory skills. In addition to their clinical work, students will also be expected to engage in regular individual and group supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03822: ADVANCED PRACTICUM II 3 s.h.

Prerequisite: Grade of Pass in PSY 03820 Advanced Practicum I

The Practicum is designed to provide students with a vehicle for obtaining practical experience and training to become competent clinical psychologists. Students will be assigned to either an internal or external practicum site. At that site, they will conduct clinical evaluations, assessments, psychotherapy and other work appropriate to the role of a clinical psychologist. The Advanced Practicum sequence is designed such that students will develop increasingly more complex and advanced clinical skills related to their chosen concentration. Students will also have the opportunity to supervise other students in the program to begin to develop their applied supervisory skills. In addition to their clinical work, students will also be expected to engage in regular individual and group supervision provided by their practicum supervisor. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03830: HEALTH PSYCHOLOGY 3 s.h.

Prerequisites: Grade of B- or better in PSY 10.630Biological Bases of Behavior AND PSY 02.715Intervention II: Evidence-Based Interventions with Adults

This course will provide doctoral students with a foundation of clinical health psychology. Theories of health behaviors will be introduced in relation to behavioral risk factors. Focus will be on assessment and treatment of primary behavioral problems encountered in health psychology. This course is restricted to students matriculated into the doctoral program in clinical psychology and is a required course.

PSY 03832: BEHAVIORAL MEDICINE 3 s.h.

Prerequisites: Grade ofB- or better in PSY 03.838Primary Cary Psychology

This course will expose students to the field of behavioral medicine and outline a behavior analytic approach to health promotion, disease prevention, and treatment of chronic disease and other behavior-related illnesses. The principles of behavior change will be reviewed and applied to a wide range of conditions including cardiovascular disease, obesity, drug and alcohol abuse, diabetes, and other psychophysiological disorders. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03834: Neuropsychological Assessment 3 s.h.

Prerequisites: Grade ofB- or better in PSY 03.703Assessment II: Cognitive

The course will emphasize the development of skills for recognizing and describing deficits in major aspects of cognitive functioning. The relationship between neuropsychological assessment techniques and procedures and brain-behavior relationships will be highlighted. Students will learn about the psychometric and qualitative aspects of the assessment process along with the selection and use of appropriate normative comparison standards. Finally, the role of the comprehensive neuropsychological assessment procedures in the evaluation of neurobehavioral disorders will be explored. This course is restricted to students matriculated into the doctoral program in clinical psychology and is required of students in Clinical Health Psychology.

PSY 03835: PEDIATRIC PSYCHOLOGY 3 s.h.

Prerequisites: Grade of B- or better in PSY 03.832 Behavior Medicine.

The purpose of this course is to examine the links between psychological and medical issues from infancy through adolescence. Psychosocial aspects of specific medical problems and developmental, emotional, and behavioral disorders are reviewed with an emphasis on evidencebased approaches to intervention and prevention. Students in this course are required to present a relevant case from their practice. This course is restricted to students matriculated into the doctoral program in clinical psychology and required for those in Clinical Health Psychology.

PSY 03838: Health Care Models & Service Delivery 3 s.h.
Prerequisite: Grade of B- or better in PSY 03.830
Many individuals receiving care for behavior health conditions also have physical health conditions that require medical attention, and vice versa. As a result, health care systems are evolving rapodly to improve coordination among health care providers andn patients as well as to create models specific to rural and urban settings. In this course, students will learn how to effectively collaborate in a primary care setting, the different models ofo practice that can be used to integrate physical and behavioral health, and adaptations of these models for different settings. A final component of the course is discussion of how the changing landscape of health care policy impacts the practice of psychology.

PSY 03860: INTERNSHIP 0 s.h.
Prerequisites: Permission of instructor
The internship is a 12-month full-time commitment (2,000 hours) that is designed to provide an intensive clinical experience expanding upon the required didactic coursework, clerkship, diagnostic practicum and therapy practicum experiences. In some approved circumstances students may complete the requirement in 24 months. Students will typically enroll in this noncredit course for each of the semesters that they are away. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 03900: Advanced Seminar in Health Psychology and Behavioral Medicine 3 s.h.
Prerequisites: Grade of B- or better in PS Y 03.83 5Pediatric Psychology
PSY 03.900 Advanced Seminar in Health Psychology and Behavioral Medicine 3 S.H. Prerequisites: Grade of B- or better in PS Y 03.83 5 Pediatric Psychology Health Psychology and Behavioral Medicine represent disciplines that are dynamic and evolving. This content of this seminar will vary each time it is offered with different classes addressing different advanced topic areas in Health Psychology and Behavioral Medicine. The course is intended to be flexible so that different topics can be presented in response to emerging trends in the field. Faculty Workload Hours: 3

PSY 03902: Advanced Seminar in Evidence Based Practice 3 s.h.
Prerequisites: Grade of B- or better in PSY 03.717Advanced Cognitive-Behavioral Assessment and Therapy
This seminar is intended to be flexible in content and responsive to emerging trends in healthcare and treatment of individuals within a variety of different contexts. Cognitive-Behavioral treatments have been at the forefront of evidence-based treatments and therefore the content of this advanced seminar may focus on developments within this framework. However, the specific content of this seminar will be deliberately flexible and emerging evidence-base care models and treatments, regardless ofthe theoretical foundations from which they emerge, will also be included. The focus of the class will be on helping students develop both a knowledge base and an ability to implement and critically evaluate emerging treatments.

PSY 05206: Social Psychology 3 s.h.
Prerequisites: PSY 01100 or PSY 01107
This course examines the psychological, social and cultural factors that shape the social behavior of the individual. It investigates such topics as affiliation, conformity, leadership, group processes; attitude formation and change; intergroup cooperation and conflict. The primary focus is on the individual in social context.

PSY 05501: Intervention Approaches In Psychology And Human Services 3 s.h.
This course provides an overview of major intervention strategies used in diverse settings to address the counseling needs of a variety of client populations. Factors affecting counselor efficacy are discussed. The course covers ethical principles and practice standards in human service intervention, as well as strategies for measuring the effectiveness of intervention approaches as applied to specific problems.

PSY 05502: Fundamentals Of Drug And Alcohol Abuse And Dependency 3 s.h.
This course provides an overview of fundamental issues concerning drug and alcohol use and addition. Topics covered include psychological theories of addiction, psychopharmacology, and legal and ethical issues in the prevention and treatment of addiction. The role of social context in drug and alcohol abuse prevention and treatment is discussed.

PSY 05512: Positive Psychology 3 s.h.
Prerequisite: Graduate level standing
What is a "good life?" What personal qualities and life experiences determine happiness? Are there things we can do that increase satisfaction with life in a meaningful and consistent way? How do people overcome adversity and build hope, strength and courage? In short, what really matters? Positive Psychology is an emerging area of psychology that attempts to scientifically examine these timelines and central questions. Positive Psychology focuses on such topics as happiness, hope, contentment, gratitude, creativity, optimism, values and resilience. This class will examine contemporary theory and research in Positive Psychology, with the goal of exploring how we might build a more satisfying life for ourselves and for others, and ultimately use this knowledge to improve organizations, schools, and other institutions for a healthier community.

PSY 05610: Social And Cultural Diversity 3 s.h.
This course will review studies that provide an understanding of the issues and trends in a multicultural and diverse society and their influence on social thinking, social influence, and social relations. It will examine research dealing with the dynamics and impact of socially constructed categories. These categories include culture, ethnicity, nationality, age, gender, sexual orientation, mental and physical characteristics, education, family values, religious and spiritual values, socioeconomic status and unique characteristics of individuals, couples, families, ethnic groups, and communities. The implications of these issues for effective counseling is addressed.

PSY 05621: Social Issues in Health and Wellness 3 s.h.
Prerequisite: Matriculation into Ph.D. Program in Clinical Psychology
This course will focus on the ways in which prominent social psychological therories and perspectives have been tested and applied in the context of health, disease, and wellnedd. Topics including cognitive dissonance, social comparison, social perception, social influences, attitudes, communication and persuasion, relationships and social support, coping style, self-efficacy, self-motivation and self-regulations will be examined for their relations with health and wellness. Specific ways in which the broader socio-cultural environment has an impact on health behaviors, psysiology, and disese risk will also be explored. The integrationn of theroretical and empirical social psychological contributions to health will be emphasized.

PSY 05651: Interpersonal Theory And Psychotherapy 3 s.h.
This course is designed to be an overview of interpersonal psychotherapy and theory. The course will include didactic and experiential components, and will focus on developing the skills and knowledge necessary to use interpersonal techniques in a professional context. In addition to these general skills, the course will also focus on the application of these techniques to specific populations of interest within the psychological community.

PSY 05652: Advanced Seminar In Clinical Practice 3 s.h.
This advanced seminar in clinical practice is intended as a vehicle for bringing cutting edge information to current and future practitioners engaged in clinical services. The topic(s) covered in a specific section will vary depending upon focus chosen by the faculty member who is directing the class. However, the broad focus of each seminar will be on developing knowledge and skills that directly benefit the students' ability to function as a mental health professional.

PSY 05700: Social Psychology 3 s.h.
Prerequisite: Matriculation in Ph.D. in Clinical Psychology Program
Course includes a survey of the field of social psychology with emphasis upon: basic psychological factors affecting social behavior; attitudes; language and communication, society and culture; individual in relation to social groups and organizations, group effectiveness and role behaviors. Emphasis will be placed upon major theories and concepts of social psychology and relationships to other disciplines.

PSY 06533: Tests And Measurements 3 s.h.
The use, organization and interpretation of individual and groups standardized tests are studied. Other means of evaluation, such as observations, inventories and use of cumulative records, will be included. Opportunity will be provided for examining and evaluating these various evaluation instruments and techniques.

PSY 06625: Assessment I: Psychometrics, Evaluation, & Treatment Planning 3 s.h.
Matriculation in the Masters Program in ClinicalMental Health Counseling

PSY 06626: Assessment II: Assessment Of Career/Vocational Interests, Treatments, & Programs 3 s.h.
Prerequisite: PSY 06625 with B- or above
This course will introduce students to three unique applications of assessment principals within clinical and counseling contexts. Specifically, students will learn about the use of the assessment process and instruments for the purpose of career and vocational counseling. In addition, students will learn how to design and implement procedures aimed at assessing the effectiveness of their services at an individual (treatments) and organizational (programs) level. Students will also be introduced to ethical and professional issues related to assessment in these contexts, and they will be expected to demonstrate their skills as part of their classroom experience.

PSY 06631: Psychological Testing Of The Preschool Child 3 s.h.
Practice in administration, analysis and evaluation of individual tests with infants and preschool children with emphasis upon such tests as the Gessell Infant Intelligent Scale, Cattell Infant Intelligence Scale, Gessell Developmental Tests, Minnesota Preschool Test and so forth. Tests will be administered under supervision with subsequent reports.

PSY 07201: Research Methods In Psychology 3 s.h.
Prerequisite(s): PSY 01106 and PSY 01107 and PSY 07202
This course addresses research design and methodologies for data collection in psychological research. Observation, correlational, and experimental techniques are studied. Also examined are ethics in research and responsible interpretation of research results. There will also be an emphasis throughout the course on applying statistical concepts learned in Statistics in Psychology (PSY 07202), culminating in a formal research project.

PSY 07202: Statistics In Psychology 3 s.h.
Prerequisite(s): PSY 01106 AND PSY 01107
This course focuses on the many statistical procedures used in psychological research. Students will learn to select and calculate appropriate procedures to analyze both quantitative and qualitative data. They will gain an understanding of how to select and perform descriptive, correlational, and inferential procedures. There will also be emphasis throughout the course on learning to use statistical software.

PSY 07714: Statistics for Clinical Psychology I: Univariate 3 s.h.
Prerequisites: Grade of B- or better in PSY 02. 706 Research Methods
PSY 07.714 Statistics for Clinical Psychology 1: Univariate 3S.H. Prerequisites: Grade of B- or better in PSY 02. 706 Research Methods This graduate level course provides an overview of basic statistical analyses frequently used in clinical psychological research. Omnibus and focused hypothesis testing in one factor and multifactor designs using the General Linear Model will be covered. Focus is on the appropriate applications and interpretations ofthese statistical analyses. This course is restricted to students matriculated into the doctoral program in clinical psychology. Faculty Workload Hours: 3

PSY 07740: Statistics for Clinical Psychology II: Multivariate and Advanced Statistics 3 s.h.
Prerequisites: Grade of B- or better in PSY 07.714 Statistics for Clinical Psychology I: Univariate
This graduate level course provides an introduction to advanced multivariable statistical analyses frequently used in psychological research, such as canonical correlation analysis, multivariate analysis of variance, multivariate multiple regression, discriminant analysis, path analysis, factor analysis, logistic regression, multidimensional scaling, and cluster analysis. Issues of time-series analysis and meta-analysis are also explored. Focus is on the appropriate applications and interpretations ofthese statistical analyses in various areas of psychological research, including clinical, cognitive, physiological, and social psychology. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 09209: Child and Adolescent Development 3 s.h.
The content of this course covers the physical, cognitive, perceptual, linguistic, emotional, social, moral and sexual development in humans, from the womb through adolescence. The influence of biological and sociocultural mechanisms underlying development within these domains are also considered.

PSY 09210: Adolescent Development 3 s.h.
This course studies current theory and practice related to biological, cognitive, psychoanalytic, psychosocial, sexual and moral development in adolescence. Students gain experience in developing beginning levels skills in selection and use of evaluative techniques and in the use of activities appropriate to the various levels of adolescent development. This course is intended for nonmajors and will not fulfill requirements of the Psychology major. Psychology majors must take Lifespan Development (PSY 01308) in order to fulfill the requirements of the major.

PSY 09218: Lifespan Development 3 s.h.
Prerequisites: PSY 01100 or PSY 01104 or PSY 01107
This course provides an overview of human development across the lifespan, including physical, cognitive, social, and personality development. All the major lifespan developmental theories and research will be presented, with heavy emphasis on students' critical thinking about research. This course will cover both normative and atypical development across the lifespan, including the major physical, mental health, and social problems occurring during the life span.

PSY 09305: Developmental Psychopathology 3 s.h.
Prerequisites: PSY 01100 or PSY 01107
Using a developmental framework, the student will examine normal and abnormal behavior from infancy through adolescence. Students will learn about the pathways to normal and abnormal behavior, explore the factors that place children at risk for problems as well as the factors that protect children from adversity. Topics will include autism, depression, anxiety, aggression, attentional difficulties, developmental delay, and physical illness.

PSY 09511: Child Psychology 3 s.h.
This course is designed to help professional educators and others concerned with facilitating healthful child development to become more aware of the interrelationship of children's needs, potentialities and competencies. Attention is devoted to the physical, social, mental and emotional growth of the child from conception to puberty.

PSY 09560: Lifespan Development 3 s.h.
This course focuses on the developmental processes across the lifespan. Major theoretical perspectives are presented. Attention is given to physical, cognitive, social and emotional development at each significant developmental periods.

PSY 09595: Introduction To Counseling: Development Of Basic Skills 3 s.h.
This course is a graduate level introduction to the foundation skills necessary for mental health counselors. Thus, there is a minimum expectation of satisfactory understanding from certain core undergraduate areas (e.g.., Abnormal Psychology, Personality Theories) and basic experiences with people who have mental illness. This course will cover a wide variety of theoretical and applied topics including, the development of professional identity, observation skills, micro counseling skills and developing a multicultural competence. This course will also review mental status exams, the content areas of the initial intake interview, assessing for suicide and homicide risk, and conceptualizing clients. Students are expected to demonstrate these skills through the use of role plays and videotapes.

PSY 09700: Human Development 3 s.h.
Prerequisite: Matriculation into Ph.D. Program in Clinical Psychology
In this course, students will understand development as a fusion of biological, cognitive, affective, and social aspects of mind and behavior interacting in the context of culture. Students will learn about the theories and methodologies used to study human development across the lifespan from prenatal development through adulthood. The interplay between cognitive, affective, and social development will be emphasized, including such topics as perception, attention, memory, language, problem solving, decision making and interpersonal relationships. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 10315: Physiological Psychology 3 s.h.
Prerequisites: PSY 01100 or PSY 01104 or PSY 01107
An introductory course in physiological psychology designed to give the student an understanding of the neural processes mediating behavior. A study of advances in such areas as the neural coding of memory and learning; control of human behavior and emotions through physiological changes; the environment as it affects the nervous system; psychobiology of sex; psychosomatic illness; and instrumentation and techniques for investigating problems in physiological psychology.

PSY 10610: Psychopharmacology And Biological Bases Of Behavior 3 s.h.
This course will provide an understanding of basic neurological mechanisms and how they are effected by psychotropic medications. It includes a description of the functioning of neurotransmitters and their role in the etiology of some mental illnesses. The course will review the major classes of psychotropic medications and their use for specific psychological disorders. The integration of psychotropic medications into best practice treatment plans and case management is discussed.

PSY 10630: BIOLOGICAL BASES OF BEHAVIOR 3 s.h.
Prerequisites: Matriculation into Ph.D.Program in Clinical Psychology
This course examines the structure and function of the nervous system, from the cellular to the behavioral level. Topics will include cell types, neuronal membrane electrical properties, synaptic properties, neurobiology of the senses, control of movement, development of the nervous system, and the effects of the nervous system on learning, memory and other psychological behaviors. Current research and animal models will also be discussed. Students will be expected to become proficient in both the basic biological mechanisms as they affect psychological functioning, and in current research in improving psychological functioning through neural and biological interventions. This course is restricted to students matriculated into the doctoral program in clinical psychology.

PSY 22507: Development And Learning 3 s.h.
This course is an introduction to the basic theories, vocabulary and principles of developmental psychology. Special attention is focused upon the role of environmental and educational factors in development, and the application of learning theory to modify behavior. Age-appropriate behaviors expected of children and adolescents are described.

PSY 22512: Educational Psychology 3 s.h.
The dynamics involved in the process of learning are emphasized. An objective of the course is a consideration of the ways psychology can be of value in facilitating the teaching-learning process. Such topics as formulating objectives, motivation and evaluation of learning are considered.

PSY 22586: Psychology Of Motivation And Learning 3 s.h.
An intensive study of the basic theories of learning and current research in motivation and learning is emphasized in this course. Stress is placed upon the significance of these theories and investigations for educational practices.

PSY 22600: Seminar I In Applied Research: School Psychology 3 s.h.
This course will concentrate on the latest developments in the field of educational psychology, emphasizing theoretical and research findings. An introduction to the field of school psychology will also be included. Students will be expected to complete a project to demonstrate scholarly and professional awareness in the field.

PSY 22601: Seminar II In Applied Research: School Psychology 3 s.h.
This course will concentrate on the latest developments in the field of educational psychology, emphasizing theoretical and research findings. An introduction to the field of school psychology will also be included. Students will be expected to complete a project to demonstrate scholarly and professional awareness in the field.

PSY 22602: Applied Research: School Psychology 1 s.h.

ADV 04330: Introduction To Advertising 3 s.h.
Prerequisite(s): Public Relations/Advertising Major and COMP 01112 or HONR 01112 or ENGR 01201
The course provides an overview, including techniques and terminology that are useful in the professional world. Topics include history of advertising, marketing, ethics, law, consumer behavior, print and electronic media, and retail and corporate advertising. The course combines theory of advertising with practical applications.

ADV 04360: Integrated Marketing Communication 3 s.h.
Prerequisites: PR 06350 and ADV 04330
This course explores the expanded as well as the communication portion of the organization's business and marketing plans. Emphasis is placed on how to translate marketing strategies into a well-defined and seamless communication program directed at all of the organization's publics.

MAPR 01511: Writing Speeches 1 s.h.
Students will learn how to research the audience, how to locate information and how to write various kinds of speeches. Evaluating the effectiveness of a written speech will be covered.

MAPR 01522: PERSUASION TECHNIQUES 1 s.h.

MAPR 01524: Fundraising And Development 2 s.h.
Students will learn how fundraising and development offices are organized, what research and case studies say about fundraising and development and how to plan and evaluate campaigns.

MAPR 01528: Communication with Special Publics 1 s.h.
This course will show students how to recognize the characteristics of special publics such as blacks and other minorities, women, senior citizens, youth influentials and the community power structure. Featured will be communication methods and strategies of communicating effectively with these special publics.

MAPR 01530: Internal Communications In Organizations 1 s.h.
Both lateral and vertical communications will be studied in various organizations. The importance of good internal communications on effective external communications will be highlighted. Ideas, plans and methods of initiating and maintaining an effective internal communications program will be emphasized.

MAPR 01531: Media Planning And Buying 1 s.h.
Students will learn how to devise a media plan that will most effectively carry their message to the target audiences. They will gain practice identifying audiences, developing a media budget, devising a media work plan and buying media.

MAPR 01533: Crisis Public Relations 1 s.h.
Students will learn how to anticipate crises and how to plan a communications program that works during a crisis. Working with internal and external audiences before, during and after a crisis will be covered.

MAPR 01534: Small Group Communications 1 s.h.
Addressed in this course will be the definition of small group communication; why to study small group communications; and communication factors such as group size, spatial arrangement in face-to-face groups, status, rank, and power; leadership; group climate; cooperation, competition, and conflict in group climate; and communication networks.

MAPR 01535: Interpersonal Communications 1 s.h.
Considered in this course will be communication between two people. Models of communications developed by authorities in the field will show how the communications process works. Featured will be the concepts of communications such as the frame-of-reference, empathy, authenticity, interpersonal trust, and feeling content. The course will help students understand some of the communication barriers encountered in day-to-day work.

MAPR 01536: Public Relations Law And Ethics 1 s.h.
The course will acquaint students with the substance and interpretation of the "Code of Professional Standards for the Practice of Public Relations," which is the official code of the Public Relations Society of America. During the course students will become familiar with the major laws governing broadcasting, publishing and speaking. A key ingredient of the course will be the opportunity for students to develop personal ethical stances about communications and to refine their skills at judging ethically unclear situations in communications.

MAPR 01537: Contemporary Public Relations Challenges 1 s.h.
This course will mix lecture with seminar discussions on key issues of the day affecting the practice of public relations. Classic problem-solving and decision-making designs will be part of the discussion about the contemporary events. Individual, on-the-job problems from class participants will be discussed and solved in case study fashion. (Using the computer for PR purposes will be stressed.)

MAPR 01538: Legislative Liaison For Public Relations Practitioners 1 s.h.
From this course students will learn how to identify from government officials and records information that affects organizations; to work effectively with government officials at all levels, local, state and federal; to promote legislation that would be helpful to an organization; and to obtain cooperation from government officials and groups.

MAPR 01541: Understanding And Writing Grants And Proposals 1 s.h.
Students will learn where to get grants, how proposals are evaluated and how to write and present proposals.

MAPR 01547: Graduate Strategic Writing 3 s.h.
This course consists of five writing modules with varying credits: MAPR01.506-Newswriting, MAPR01.507-Tightening Writing and Translating from Jargon to Comfortable Language, MAPR01.509-Writing Leads That Get Attention, MAPR01.510-Writing Reports, Letters and Memos, and MAPR01.513-Feature Writing. Instruction is given in the five modules in journalistic writing and editing. Students will learn how to prepare effective news releases, to edit the way professional writers do, to gain readers' attention by writing effective leads, to write reports, memos and letters that communicate effectively, and to prepare and place feature stories for newspapers, journals and magazines. Description of individual modules is given under each respective number.

MAPR 01548: Graduate Writing Basics 1 s.h.
In todays fast-action world, you are required to write accurate, hard-hitting communication at a moments notice. This course provides proctical guidelines for students who need to write with speed, precision and power.

MAPR 01550: Introduction to Graduate Strategic Communication Research 3 s.h.
A study of the research process as it relates to the task of writing a communication thesis. Emphasis will be placed on the four standard, accepted types of research. Students will examine the unique purposes, features, procedures and uses of each research type, using the information as the basis for creating a thesis proposal.

MAPR 01551: Graduate Strategic Communication Overview 3 s.h.
This is an overview of the relationships between an organization and its publics. Development of understanding among them is stressed. The course presents the theoretical foundation of public relations and outlines techniques of structured communications between an organization and its publics.

MAPR 01553: Graduate Case Studies In Public Relations 1 s.h.
This course reviews and predicts how organizations solve their PR challenges. Through case studies, students evaluate issues, audiences and strategic elements of each situation. Students work through problems in seminar situations and write position papers.

MAPR 01554: Planning Special Events 1 s.h.
This course will survey the problems and solutions surrounding the staging of special events and workshops in the practice of public relations. events like ground-breaking news conferences, dignitary visits, seminars, anniversary celebrations and many more pose planning and implementation problems for the practitioner. Students will anticipate and solve these problems and have the option to make plans of their own for upcoming events. Included will be budgeting, involving the audience in planning, choosing sites, working with speakers and evaluating the event workshop.

MAPR 01555: Persuasive And Feature Writing 1 s.h.
Students will learn in this module additional technical skills in modifying opinion through writing. Students will receive a personal checklist of their persuasive writing needs during the course. In addition, students will learn how to prepare and place feature stories for newspapers, journals, and magazines.

MAPR 01556: Organizational Public Relations Management & Counseling 3 s.h.
This three credit course will acquaint students with many aspects of the public relations profession (or review for some). Students will learn about the composition of PR departments, the steps necessary to manage a public relations department and accepted methods to establish budgets in a public relations shop. Students will be expected to analyze the economic realities surrounding the practice of public relations in a variety of settings. For the first time, there will be a concentration on public relations counseling, media training and rehearsal, and media relations.

MAPR 01557: Using Electronic Media In Public Relations 2 s.h.
This course will acquaint students with the techniques of producing video for electronic media and its proper use in a public relations program within a given budget. They will become familiar with the different requirements for electronic media production. Students will also study the steps involved in applying this method: choosing appropriate film subjects and film principles, properly conducting the planning of a story and performing the right production practices.

MAPR 01558: Integrated Marketing Communication 1 s.h.
The relationship of marketing, public relations and advertising will be explored. Marketing, PR and advertising techniques-including cost-effective ways of reaching key audiences-will be discussed, as will positioning, testing and evaluating.

MAPR 01559: Strategic Public Affairs 3 s.h.
The course examines theory and practice of strategic political communications, including depth study of persuasion campaigns, use of propaganda in public affairs, and the role of communicators in engaging the public in the critical public policy issues.

MAPR 01560: Public Affairs Overview 3 s.h.
This course is an overview of the ethical and legal means used by public affairs representatives in influencing the political, legislative, and regular process of government. Emphasis is placed on demonstrating strong writing and research skills, as well as developing effective communication plans.

MAPR 01561: Graduate Strategic Writing II 3 s.h.

MAPR 01562: INTEG MKT COM (IMC) ONLINE OVR 3 s.h.

MAPR 01563: RSRCH, MESSAG & AUD ONLINE ANA 3 s.h.

MAPR 01565: IMC AND NEW MEDIA 3 s.h.

MAPR 01566: Public Affairs Advertising 1 s.h.
This 5-week module will teach students the basic principles of advertising in the public area. Topics will include using advertising to set the agenda of a public policy debate; how to apply the lessons of product advertising; conditions that enhance the effectiveness of advertising; issue advertising as protected speech; the importance of a good working relationship with advertising agencies; advertising in a crisis; the role of research in advertising; and evaluating the effectiveness of public affairs advertising. The module will also convey real-world examples from practitioners to present to the student a broad understanding of public affairs advertising.

MAPR 01567: Public Affairs And Labor Communication 1 s.h.
This 5-week module concentrates on the role public affairs plays in an organization's relationships with its employees and the unions which represent them. Students will explore the relationship between management, unions and labor, and the role of public affairs in those relationships. Topics include: eommunity organizing; employee communications; building and maintaining political support; federal and state regulations regarding employee relations; media relations; the "Managerial Creed;" and the legal aspects of labor/employee communication. Students will gain thorough knowledge by learning about current cases.

MAPR 01568: Graduate Strategic Visual Communication 3 s.h.
The ability to conceive, produce and deploy rich visual imagery is now a core requirement for advertising and PR practitioners. To help students prepare for this rapidly evolving field, this class explores how and why visual media have overtaken text-based content. Through practical, hands-on individual experiences and class projects, it provides a framework for understanding the different types of visual media and their participants, choosing the right tools, and devising the strategies to succeed in this new digital era.

MAPR 01569: Graduate Strategic Case Studies & Public Relations Planning 3 s.h.
This course reviews and predicts how organizations solve their PR challenges. Through case studies, students evaluate issues, audiences and strategic elements of each situation. Students work through problems in seminar situations and write position papers. Students will learn the classic ways to construct a public relations plan, including writing goals and objectives, establishing campaign themes, and strategies, developing PERT and GANTT charts, specifying plan details and learning how to monitor and evaluate the plan. Students will also learn how to write a proposal, how to identify the real communications problem, and how to counsel management about policy related to the success of the plan.

MAPR 01575: INDEP STDY-PUBLIC RELATIONS .5 to 6 s.h.

MAPR 01610: Internship In Public Relations 3 to 6 s.h.
This course requires on-the-job apprenticeship in a public relations program that involves a wide variety of tasks. The internship is overseen by a public relations professional on the job and by a PR professor.

MAPR 01620: Strategic Communication Seminar 3 to 6 s.h.
Prerequisites: MAPR 01547 (allows concurrent enrollment), MAPR 01550 (allows concurrent enrollment), and MAPR 01551 (allows concurrent enrollment).
Each student will be required to develop a major communication project on any phase of educational or corporate communications. The project will display appropriate research procedures and skill in communications. Some seminar sessions will be used to provide additional communication background for students. Students are required to complete both the fall and spring seminars for the program. The fall semester is a prerequisite for the spring semester. The student must have completed or be enrolled in Public Relations Overview (MAPR 01551), Techniques of Communication (MAPR 01547), and Intro to Communications Research (MAPR 01550).

MAPR 06505: Special Topics In Public Relations 1 s.h.
Special topics provide an opportunity for graduate students to explore an emerging issue in the field of public relations in a timely fashion. The course presents an opportunity to study the topic under the guidance of an expert in the particular field or issue.

MAPR 06515: Online Public Relations 3 s.h.
Public relations has moved to the Internet, and in the process online communication skills have become essential to online and offline public relations practice. Online public relations explores the practical tools necessary for using the internet in public relations and provides a broad overview for creating an online newsroom.

MAPR 98503: School Public Relations 3 s.h.
This is an overview of the relationships of the school and its various publics. The public character of the school and the need for public understanding of the school are considered. Development of understanding between the school and the community is stressed.

MAPR 99523: POLLS & SURVEYS 1 s.h.

PR 06301: Basic Public Relations Writing 3 s.h.
Basic Public Relations Writing introduces students to the tasks of writing and editing required in a public relations position. Students will learn to write for both print and electronic media, develop their skills in grammar, syntax and usage and learn to copy edit their own work and the work of others.

PR 06310: Introduction To Public Relations/Advertising Research 3 s.h.
Prerequisites: 60 credits required
The course studies both qualitative and quantitative research methods necessary for success in the fields of public relations and advertising. Emphasis is placed on evaluation of secondary searches, individual and group interviews, media audience measurements, market structure, segmentation and usage studies, and tracking studies.

PR 06350: Introduction To Public Relations 3 s.h.
Prerequisite(s): Public Relations/Advertising Major and COMP 01112 or HONR 01112 or ENGR 01201
This course explores the history and role of public relations in society. Students explore mass media, persuasion, publicity, radio and television. Students examine special events, crisis management, communication techniques, research and evaluation, communication law and ethics. Basically a theory course, this introduction also applies ideas practically to real clients and organizations.

PR 99362: Public Opinion 3 s.h.
Prerequisites: PR 06310
This course includes the nature and role of public opinion, the dynamics of public opinion processes and the numerous factors which shape or influence opinion. Students examine the mass media, evaluating their roles as molders and reflectors of public opinion. Major topics that influence public opinion are discussed, including gratifications, agenda setting, knowledge gaps, censorships and propaganda.

RTF 03270: Film History And Appreciation I 3 s.h.
Prerequisite(s): COMP 01111
Students trace the development of motion pictures as an art form from the 1890s to 1941. Representative selections from the various genres are screened, then discussed in terms of art, technique, content and historical perspective, as well as directorial style. Part I is not a prerequisite for Part II; these courses may be taken in any order; students may opt for one or both courses.

RTF 03271: Film History And Appreciation II 3 s.h.
Prerequisite: COMP 01111 and COMP 01112
This course is a continuation of RTF 03.270 with emphasis on contemporary genres and implications. Students trace the modern cinema from 1941 to the present. Students may take Part II prior to Part I; although the content is chronological, Part I is not a prerequisite for Part II.

RTF 03275: Applied Media Aesthetics: Sight, Sound And Story 3 s.h.
Prerequisites: COMP 01111 and COMP 01112
This course offers students an introduction to the aesthetic concepts as applied directly to radio, television, and film media. Using examples from these media, students will study, discuss, and analyze design and composition elements as they apply to the production process. A basic vocabulary of aesthetic terminology will be assembled and students will be responsible for understanding and applying those terms through various written and visual assignments.

RTF 03295: Introduction To New Media 3 s.h.
Prerequisites: COMP 01111 and COMP 01112
Introduction to New Media surveys emerging digital communication and entertainment media and teaches new media from the perspective of the producer. Students will discuss the evolution, social and historical implications, and production of media forms with an emphasis on social networking, user generated and other web media.

RTF 03393: Film Scenario Writing - Wi 3 s.h.
Prerequisites: COMP 01111 and COMP 01112
The course covers the basic technical requirements for writing movie scripts and the problems of adapting material to screen and script analysis. By viewing contemporary movies and studying plotting, point-of-view, character creation and dialogue, students learn how a film script is put together and write an original script.

RTF 10520: Graduate Audio Production 3 s.h.
Graduate Audio Production teaches the basic concepts of sound as it relates to the medium of radio, television, and film. Through coordinated reading assignments and in-class listening, students will become familiar with various styles of documentary audio production. Students will also study the historical evolution of film sound and music through lectures, viewing, and in-class discussion. Students will be expected to integrate this information into the production of professional audio documentaries and sound design for film.

RTF 10521: Graduate Documentary Production 3 s.h.
Graduate Documentary Production is a graduate course where students lacking will gain knowledge and skills to produce documentary projects. Students will explore the culture of the media professional through a series of group assignments that stress productive collaboration, objective criticism and analysis, professional ethics, and time management. Students will develop competencies in the processes and equipment of television field production, experiencing all phases of pre-production, production, and post-production as they research, write, shoot and edit creative projects.

RTF 10522: Graduate Film Production 3 s.h.
Graduate Film Production is a graduate course where students are introduced to the technological, organizational and aesthetic production competencies for shooting narrative films using color, lights and sound. Readings will emphasize cinematic visual storytelling conventions. Homework assignments will emphasize preproduction, previsualization and production coordination of short narrative films. Students will produce a series of production assignments culminating in the production of a short narrative film.

RTF 10523: Graduate Screenwriting 3 s.h.
Graduate Screenwriting is an intensive writing workshop where students learn the basics of dramatic writing for the screen. The first half of the course is built around screenings, lectures, discussions and exercises where students explore the fundamentals of daily writing, dramatic structure, visual writing, characterization, dialog and proper screenplay formatting. Film analysis will focus on classic and contemporary shorts and feature films. The second half of the semester focuses on the development, and re-writing of a narrative short film based on an incident from a longer feature screenplay outline.

EDTC 33510: Emerging Technology Tools and the Curriculum 3 s.h.
The philosophical, psychological, sociological and educational implications of the computer and its impact on the public school curriculum are explored. Current relationships between theory and practice, along with future technologies, are examined.

EDTC 33531: Coding and Logical Thinking to Support Learning 3 s.h.
The course prepares educators to focus on exploring rationales, resources, and strategies of incorporating coding, programming, and logical thinking in P-12 classrooms. Educators will not only become familiar with the basics of coding and logical thinking, but they will also research case studies and evaluate best practices, available resources, and curriculum. The content of this graduate-level course will focus on the development of the educators' understanding of ways to effectively use best-practice teaching strategies with respect to coding, programming, and logical thinking so as to support P-12 learning.

EDTC 33540: Developing Online Resources for P-12 Students 3 s.h.
The course prepares educators to develop online lessons and resources for P-12 students in classroom and online learning environments. Participants will learn the theory and practice of P-12 online teaching and learning and explore effective strategies to develop useful web-based lessons and resources. Emphasis is placed on understanding the trend of P-12 online education, selecting effective tools for online instruction, engaging students through collaborative activities, and developing and evaluating online resources. Participants will become familiar with technological tools for designing online resources and develop knowledge of online resources for teaching and student use.

EDTC 33570: Researching and Analyzing Educational Technology 3 s.h.
The course is designed to induct teachers into educational technology research. The primary goal of this course is to introduce instructional system design (ISD) theories and frameworks and the types of educational technology research in P-12 and higher education settings. Participants will review the instructional system design processes and explore both qualitative and quantitative research studies of educational technology in P-12 and higher education settings. Participants will develop their sills in analyzing and summarizing literature in educational technology.

EDTC 33580: Introduction To Educational Technology 3 s.h.
This course is intended for educators at all levels who place a high value on successful teaching and learning. The purpose of the course is to help educators incorporate media and technologies for learning into their repertoire--to use them as learning tools. The course will draw examples from elementary, secondary, and postsecondary education as well as corporate training and development. This course will provide the initial opportunities necessary to begin technology infusion in the school curriculum.

EDTC 33584: Digital Citizenship in 21st Century Schools 3 s.h.
The primary objective of this course is to provide a comprehensive introduction to desktop publishing using desktop publishing programs that can be used in the educational setting. This course provides a hands-on approach to desktop publishing using both high-end and low-end publishing programs. The experiences in this course will help students to become more involved with the visual impact of their ideas on the readers. Students will learn to integrate ideas with words, typestyle, graphics and other features involved in the production of publications with a high level of visual impact.

EDTC 33585: Internet In The Classroom 3 s.h.
Prerequisites: EDTC 33.580
This course provides and introduction to the Internet emphasizing its value in teaching and learning. In this course students will discover how to use some basic Internet navigation programs to locate and gather information from the Internet. Lessons will include finding and subscribing to listserv lists in education, using ERIC online, accessing and employing web search engines., locating and downloading files, handling files with e-mail, discovering and capturing multimedia elements on the web, developing a personal web page, and analyzing the implication of the Internet for lifelong learning in education.

EDTC 33600: Seminar in Educational Technology 3 s.h.
The purpose of this course is to introduce educators to current research trends and topics in educational technology through literature review, discussions, and case studies. The course focuses on building a knowledge base in trendy topics, concepts, and technologies that drive educational change and innovation in P-12 education. Participants will explore important developments of educational technology, trends of technology adoption, as well as challenges and potential solutions of implementing advanced technologies in teaching and learning. In addition, participants will become familiar with the major sources of educational technology research and improve their analytical and critical thinking skills.

EDUC 01282: Teaching In Learning Communities II-Art 3 s.h.
Prerequisite: C- or better in EDUC 01270
Teaching in Learning Communities II Art furthers the understanding of successful and caring learning communities begun in Learning Communities I. A field component is required.

EDUC 01284: Teaching In Learning Communities II-Music 3 s.h.
Prerequisite: C- or better in EDUC 01270
Teaching in learning Communities II Music, is specifically designed to continue the development of an understanding of successful and caring learning communities begun in the Teaching in Learning Communities I course and apply it specifically to the music classroom as a "learning community." This course will be music education specific to develop a broad and deep knowledge of music education processes throughout grades K-12 in music settings. A field component is part of this course.

HPE 00100: Teaching Concepts of Driver Education 3 s.h.
Prerequisite(s): (ATR 00235 or PHED 35235) and (HPE 00325 or HLTH 37325) or (ATR 00235 or PHED 35235) and (HPE 00326 or HLTH 37326)
The course is designed for individuals seeking New Jersey Driver Education teacher endorsement. The content includes learning to teach motor vehicle operation, driving environment and the student development of teaching techniques emphasizing safety, risk perception, and decision-making prcesses applied in a vehicle. Learning how to instruct others in performing behind-the-wheel driving will be scheduled outside of class time.

SECD 03330: Practicum In Teaching And Learning A 1 s.h.
Practicum in Teaching and Learning A is a co-requisite with Teaching and Learning Mathematics A, Teaching and Learning English/Language Arts A, Teaching and Learning Social Studies A, or Teaching and Learning Foreign Language A, Teaching and Learning Science A. The course will consist of general opening session, a general closing session, sessions at a cooperating public middle school, and visits to government agencies, commercial sites, community sites, campus-based laboratories (when appropriate) and/or museums.

SECD 03332: Practicum In Teaching And Learning B 1 s.h.
Practicum in Teaching and Learning B is a co-requisite with Teaching and Learning Mathematics B, Teaching and Learning English/Language Arts B, Teaching and Learning Social Studies B, or Teaching and Learning Foreign Language B, Teaching and Learning Science. The course will consist of a general opening session, a general closing session, sessions at a cooperating public high school, and visits to governmental agencies, commerical sites, community sites, campus-based laboratories (when appropriate) and/or museums.

SMED 31350: Elementary Art Methods: Teaching and Learning Art A 3 s.h.
Prerequisites: C- or better in EDUC 01282 andREAD 30319 and SMED 33420Corequisite: SECD 03330
This course prepares pre-service teachers for instructing preschool, elementary and middle school students in the visual arts. Through laboratory and clinical field experiences learners will apply theories of artistic learning to authentic arts classroom situations while under faculty supervision. Assignments involve the learner in examining art curriculums, a variety of assessment strategies used by art teachers in the classroom, and approaches for critiquing student works and aesthetic enrichment. The learner will be required to prepare art lessons and units of study that demonstrate: a working knowledge of artistic concepts and skills, an understanding of the artistic development of children, and considerations for adaptive learning in the arts for special populations.

SMED 31360: Secondary Art Methods: Teaching and Learning Art B 3 s.h.
Prerequisites: ELEM 02270 and ELEM 02282
This course prepares pre-service teachers for instructing high school students in the visual arts. Through laboratory and clinical field experiences learners will apply theories of artistic learning to authentic arts classroom situations while under faculty supervision. Assignments involve the learner in examining high school art curriculums, a variety of assessment strategies used by art teachers in the classroom, and approaches for critiquing student works and aesthetic enrichment. The learner will be required to prepare art lessons and units of study that demonstrate: a working knowledge of artistic concepts and skills, an understanding of the artistic development of the adolescent, and considerations for adaptive learning in the arts for special populations.

SMED 31450: Residency II: Elementary and Secondary Art 10 s.h.
Corequisites: SECD 03350 and SMED 31451
This senior level course provides the teacher education candidate with opportunities to demonstrate the professional knowledge, pedagogic skills and dispositions developed in preservice professional course work. The student teaching experience is a supervised, full-time activity conducted in public elementary, middle and secondary art classrooms. The experience requires demonstrated mastery of artistic content, lesson planning, instructional techniques in the arts, student assessment and classroom management. Admission to this course requires completion of professional education courses and near completion of academic major courses. A minimum grade point average of 3.0 in major and professional education courses is required.

SMED 31451: Clinical Practice Seminar In Art Education 1 s.h.
Corequisites: SECD 03350 and SMED 31450
This capstone seminar for art teacher candidates provides an opportunity to establish structural knowledge apriori that will enable the integration of applied art classroom experiences during the subsequent weeks of student teaching and; creates a forum for students to process new experiences in the elementary, middle and secondary schools with art professionals who share an understanding of the context in the art classroom. Interviewing skills and a professional portfolio wil be developed during this course.

SMED 32411: Clinical Practice In Music 10 s.h.
Corequisites: SECD 03350 and SMED 32412
This senior level course provides the teacher education candidate with opportunities to demonstrate the professional knowledge, pedagogic skills and problem-solving ability developed in preservice, professional course work. The student teaching experience is a supervised, full-time activity conducted off-campus in a public secondary school classroom. The experience requires demonstrated proficiency in lesson planning and evaluation, instructional techniques, student assessment and classroom management. Admission to student teaching requires near completion of academic major, minimum grade point average of 3.0 in major and recommendations by major field academic department and teacher education faculty.

SMED 32412: Clinical Practice Seminar In Music 1 s.h.
Corequisites: SECD 03350
This capstone seminar for music student teachers provides an opportunity to establish structural knowledge apriori that will enable the integration of applied music classroom experiences during the subsequent weeks of student teaching, and creates a forum for students to process their new experiences in the schools with music professionals who share the context for the music classroom.

SMED 33420: Educational Technology 1 s.h.
This laboratory course focuses on the use of educational technology in support of student learning, and integration of technology into the K-12 curriculum. Strategies to incorporate technology and the World Wide Web into the school curriculum will be explored. Each student will develop an electronic portfolio to demonstrate their growth over time and record evidence of their teaching competencies.

SMED 33510: Computers And The Curriculum 3 s.h.
The philosophical, psychological, sociological and educational implications of the computer and its impact on the public school curriculum are explored. Current relationships between theory and practice, along with future technologies, are examined.

SMED 33600: Problems In Mathematics Education I 3 s.h.
Investigates recent developments and relevant research in mathematics education. The student will determine a problem and investigate the problem as a project. The project must deal with a problem in mathematics, mathematics education, or computer science education. This project may be local or national in scope.

SMED 33601: Problems In Mathematics Education II 3 s.h.
Investigates recent developments and relevant research in mathematics education. The student will determine a problem and investigate the problem as a project. The project must deal with a problem in mathematics, mathematics education, or computer science education. This project may be local or national in scope.

STEM 60501: STEM: Teaching & Research Methods I 3 s.h.
Prerequisite(s): Matriculation in the MA in STEM EducationCorequisite(s): STEM 60510 and READ 30520
{STEM 60501): STEM Teaching & Research Methods I 3 sh Prerequisite: Matriculation in the MA in STEM Education Corequisites: Teaching STEM in Diverse Settings (STEM 60510) and READ 30520: Content Area Literacy This is the first course in the 3-course STEM methods sequence for candidates in the Master of Arts in STEM Education program. Through integrated STEM coursework, candidates will focus on learning how to make content explicit; eliciting and interpret students' thinking; engage in strategic relationship-building conversations with students; analyze instruction for the purpose of improving it; and communicate with other professionals. Faculty workload: 3 sh

STEM 60502: STEM: Teaching & Research Methods II: Mathematics 5 s.h.
Prerequisite(s): B- or higher in: STEM 60501, STEM 60510,and READ 30520
This is the second course in the 3-course STEM methods sequence for candidates in the Mathematics specialization in the Master of Arts in STEM Education program. Grounded in national and state mathematics standards, the course introduces teaching models that support good mathematics teaching practices. Course activities and assignment are directly connected to the co-requisite resident experiences. The course will help prepare pre-service mathematics teachers to develop STEM pedagogy in the teaching of mathematics. This course is offered annually during the fall semester.

STEM 60503: STEM: Teaching & Research Methods III: Mathematics 6 s.h.
Prerequisites B- or higher in STEM 60501, STEM 60510, READ 30520Co-requisites: STEM 60512
This is the final course in the 3-course STEM methods sequence for candidates in the Mathematics Specialization in the Master of Arts in STEM Education program. Grounded in relevant research in mathematics and STEM education with implications for teaching practice and national and state mathematics standards, the course continues to build on teaching models that support good mathematics teaching practices. In addition, this course explores contemporary issues in mathematics and STEM education. Course activities and assignments and directly connected to the co-requisite residency experiences. This course is offered annually during the Spring semester.

STEM 60504: Professional Seminar for STEM Educators 3 s.h.
Prerequisite(s): B- or higher in STEM 60513 and STEM 60503
This is the capstone course in the MA in STEM Education and will prepare candidates for their teaching positions by focusing on issues critical to new teachers. The course is designed to support candidates in their final transition from teacher candidate to teacher. Topics include understanding school climate, developing a professional development plan, developing a plan for communicating with families, planning for the first six weeks (or unit) of school, and preparing for a substitute teacher.

STEM 60510: Teaching STEM in Diverse Settings 3 s.h.
Prerequisite(s): Matriculation in the MA in STEM EducationCorequisite(s): STEM 60501, READ 30520
This course will enable STEM Education candidates to gain a multifaceted understanding of the individual and institutional elements that impact student achievement in STEM. Candidates will investigate the role that gender, SES, race, ethnicity, home language, religion, and other identity-based aspects shape school experiences, learning, and achievement in STEM. Candidates will then learn about specific approaches and instructional practices that they can use in the classroom to promote learning for nonmainstream students, including teaching academic language, differentiating instruction and assessments, and supporting home, community and school partnerships.

STEM 60512: STEM: Education Residency I 1 s.h.
Prerequisite(s): B- or higher in: STEM 60501, STEM 60510; and READ 30520
This course serves as the first semester of the yearlong teacher residency required for candidates in the MA in STEM Education. Each resident is placed in a middle or high school and attends that placement 3 full days per week during the Fall semester. Using both Rowan and placement school district measures of teaching effectiveness, supervisors will evaluate residents on requires demonstrated mastery of subject area content, lesson planning, and multiple instructional strategies to meet varied student needs and demonstrated ability to assess learner progress and modify instruction accordingly, manage all aspects of classroom activity, and work collaboratively with all instructional, administrative, parental, and community members of the classroom and school community.

STEM 60513: STEM: Education Residency II 3 s.h.
Prerequisite(s): B- or higher in: STEM 60502, STEM 60512 and SELN 60576
This is the second of the two field experiences required for candidates in the MA in STEM Education. Continuing in their field placment from STEM Education Residency I, candidates will attend their field placments 4 full days per week during the Spring semester. Using both Rowan and placement school district measures of teaching effectiveness, supervisors will evaluate residents on requires demonstrated mastery of subject area content, lesson planning, and multiple instructional strategies to meet varied student needs and demonstrated ability to asess learner progress and modify instruction accordingly, manage all aspects of classroom activity, and work collaboratively with all instructional, administrative, parental, and community members of the classroom and school community. The course will run from January through June to enable candidates to engage in all end-of-year activities at their residency sites.

STEM 60522: STEM: Teaching & Research Methods II: Science 5 s.h.
Prerequisite: STEM 60501 and READ 30520 and STEM 60510; Co-requisite: STEM 60512 and SELN 60576
This is the second course in teh 3-course STEM methods sequence for candidates in the Science track in the Master of Arts in STEM Education program. Grounded in national and state science standards, the course introduces teaching models that support good science teaching practices. Courses activities and assignments are directly connected to the co-requisite residency experiences. The coures will help prepare pre-service science teachers to develop STEM pedagogy in the teaching of science. this course is offered annually during the Fall semester.

STEM 60523: STEM: Teaching & Research Methods III: Science 6 s.h.
Prerequisites: B- or higher in STEM 60522 and STEM 60512 and SLEN 60576; Corequisite: STEM 60513
This is the final course in the 3-course STEM methods sequence for candidates in the Science Track in the Master of Arts in STEM Education program. Grounded in relevant research in science and course continues to build on teaching models that support good science teaching practices. In addition, this course explores comtemporary issues in science and STEM education. Course activvities and assighments are directly connected to the co-requisite residency experiences. This course is offered annually during the Spring semester.

ANTH 02202: Introduction To Cultural Anthropology 3 s.h.
This course presents cultural anthropology as a coherent system of data and theory designed to explain the variety of human group behavior, giving special emphasis to the structure and function of non-western cultures.

ANTH 02250: Introduction To Anthropological Linguistics 3 s.h.
Students in this interdisciplinary course will engage in the scientific study of language with particular reference to the relationships among the languages, thoughts, and cultures of speech communities living all over the world, including within the United States, France, India, Canada, Spain, Japan and Peru, among others. Additional course topics include the process of human language acquisition, structures of human language, bilingualism and the ways in which race, class, gender, and other social characteristics may be displayed through the use of language. This course is offered every other year, beginning in 2009.

ANTH 02321: Cultural Ecology 3 s.h.
Prerequisites: ANTH 02202
This course examines the relation of human groups to their environments as mediated by culture. It emphasizes the interaction of significant variables in the natural habitat, technology, and social institutions. This course may not be offered annually.

DPEM 43300: Bioterrorism and Weapons of Mass Destruction 3 s.h.
Prerequisite: DPEM 00101
This introductory course provides an overview of the different agents of biological, chemical and nuclear weapons of mass destruction. The intelligence preparation for vulnerability analyses from nuclear, biological and chemical weapons including low-level radiation, depleted uranium, toxic industrial chemical concerns and vulnerability reduction measures that can be implemented for population protection are also addressed.

DPEM 43355: Emergency Exercises-Design, Implementation and Evaluation 3 s.h.
Prerequisite(s): DPEM 43101
This course provides insight into the tasks, roles and responsibilities required to design and conduct an emergency management exercise that is a part of a long-term, carefully constructed plan in which exercises help the community prepare for disasters. Students will use a community needs assessment to develop the case for exercises, design an exercise, and outline an evaluation plan aimed at improving competence in all emergency functions. Students will also be introduced to the concept of a comprehensive exercise program used to improve on the four phases of emergency management. The course instruction will follow and meet the guidelines established by the Federal Emergency Management Agency exercise design and evaluation courses and the Department of Homeland Security Exercise and Evaluation Program.

DPEM 43395: Emergency Operations and Business Continuity 3 s.h.
Prerequisite(s): DPEM 43101 and DPEM 43350 orPermission of Instructor
This course provides a step-by-step approach to the development of a comprehensive emergency/disaster/crisis management plan for organizations (e.g. manufacturing companies, corporate officers, retailers, utilities, government agencies, or any organization where people work or gather). By analyzing how organizations prepare for, respond to, and recover from an emergency/crisis (e.g., severe winter storm) or more localized (e.g., chemical spill, building fire), this course emphasizes collaborative processes, applied methodologies used to plan and recover systems and processes when faced with various types of disaster and crisis recovery scenarios that impact communities, businesses and organizations as they seek to continue their operations. Finally, the course will emphasize how disaster preparedness directly correlates to the ability to continue organizational operations.

DPEM 43420: Risk Analysis for Disaster Prepardness and Homeland Security 3 s.h.
Prerequisite(s): DPEM 43101
This course provides an analysis of vulnerability assessment as the foundation for effective hazard mitigation by introducing and explaining various methodologies to carry out the process of vulnerability assessment. Moreover, this course will introduce students to (1) material in the risk communication/risk perception literature; (2) basic modeling techniques in quantitative risk assessment; (3) a risk management framework suitable for quantitative risk modeling and risk communication, and (4) case studies related to technological hazards and natural hazards.

DPEM 43495: Internship in Disaster Preparedness and Emergency Management 3 s.h.
Prequisite(s): DPEM 43101 and DPEM 43400 orPermission of Instructor
This course is designed to provide students with an experience in the profession of emergency management, homeland security and disaster preparedness beyond that of the classroom.
NOTE: Additional placement requirements such as background checks and fingerprinting may be required.

HSRV 01100: Introduction to Human Services 3 s.h.
Prerequisite: BA in Human Services Majors
An interdisciplinary orientation to major Human Services agencies and institutions in this region, including social work, education, corrections, substance abuse, child welfare, mental health, recreation, geriatrics, etc. Participants will study the roles and functions of professionals in these types of Human Services careers.

HSRV 01320: Applied Ethics in Human Services 3 s.h.
Applied Ethics in Human Services provides an in depth analysis of human services ethics, application of the National Organization of Human Services (NOHS) Code of Ethics, and concepts and dilemmas specific to helping relationships. From a foundation in multicultural values, the course investigates the issues of responsible practice through critical analysis and discussion. The student will apply decision making skills and critical analysis to professional situations where standards conflict. Topics include: confidentiality, duty to warn, client rights, dual relationships, competence, multi-cultural issues, sanity, malpractice and expert testimony.

HSRV 01351: HSRV 01351: Field Experience for Human Services I 3 or 6 s.h.
Prerequisite: HSRV 01100, HSRV 01310,and EITHER soc 08120 or PSY 01107
This course provides students with the opportunity to be engaged in a field experience which will require them to apply the knowledge they have gained from their previous classes focused on human services course content, theory, and research methods. Students are required to take the course, followed by the Field Experience II course, over their senior year, three credit hours during the fall semester and three credit hours during the spring semester. Both courses are primarily aimed at an academic objective: applying theory to experience. This is accomplished by having each student conduct a research exercise while working at an internship within a selected agency in the community , and by having students react to fellow students' research within the classroom setting.

HSRV 01400: Senior Seminar in Human Services 3 s.h.
Prerequisite: senior standing and completion of corerequirements.
HSRV 01400: Senior Seminar in Human Services - WI Senior Seminar constitutes the capstone experience for students majoring in Human Services and represents the culminating exit course for students. This course is a writing intensive experience designed to help students integrate their classroom and field experience into a coherent sense of human services as a profession as well as a sense of the student's personal commitment to the values and ethics of the profession. As a culminating experience, this course is based on a portfolio created from the experience the student has accrued during his/her participation in both the academic and experiential components of the major. Prerequisite: senior standing and completion of core requirements

HSRV 08310: Research Methods for Human Services 3 s.h.
Prerequisites: HSRV 0110, either STAT 02100 or STAT 02260AND EITHER SOC 08120 or PSY 01107
This course introduces the student to the scientific methods used in the social sciences, the relationship between theory and methodologies of data collection and analysis, the rudimentaries of basic types of data analysis and interpretation. Given the applied nature of the human services degree, particular emphasis is placed on qualitative research methods and analyses. This course is offered annually.

SOC 08120: Introduction To Sociology 3 s.h.
Prerequisites
This course analyzes the characteristics of social organization and focuses on the study of social relationships and interaction. It examines the social basis of behavior patterns, the nature of social problems and the possibilities for social change. (Required for Sociology majors)

SOC 08121: Introduction to Sociology for Premed Students 3 s.h.
Prerequisite(s): None
This course provides students with a general understanding of the theoretical, conceptual, and methodological approaches to studying people in groups, institutions, societies and interpersonal interaction. It examines some of the realities of everyday life and critically analyzes perceptions of these social phenomena. Special attention is given to understanding social phenomena with particular relevance to health and medicine, as well as a wide range of other social arenas.

SOC 08221: Social Problems 3 s.h.
This course examines major social problems in the society as a part of the ongoing social process, with particular reference to their economic, political and other social roots. Topics covered can include such areas as mental illness, poverty, structured inequality, various forms of addiction, war, racism and crime.

SOC 08223: The Sociology Of Social Welfare 3 s.h.
Prerequisites: SOC 08120
This course examines the socio-historical development of social welfare, focusing upon changes in the theory and practice of social welfare in American and other societies. This course may not be offered annually.

SOC 08328: Sociology of Disasters and Crisis 3 s.h.
Prerequisite: None
This course explores disasters and emergency response via a sociological lens and examines the need to systematically understand the social impacts of such tragic events. Participants will learn how to be better prepared to function as an effective member of their community to enhance the chances of improving preparedness, mitigation, and response to possible natural or technological hazards. Furthermore, this course will include discussions of disaster types, individual and collective vulnerabilities of various populations to disasters, diaster-related organization and social policies, issues of disaster preparedness, the media and disaster response, and challenges/opportunities of disaster recovery and prevention.

SOC 08331: Classical Sociological Theory 3 s.h.
Prerequisites: SOC 08120
This course studies the historical and conceptual development of the major schools of thought within the "sociological tradition." It emphasizes an understanding of the nature of theory and systems of theory, the application of theory, the problems inherent in theorizing about society and social life and the relations between sociological theory and research. (Required for sociology majors)

SOC 08332: Contemporary Sociological Theory 3 s.h.
Prerequisites: SOC 08120
Contemporary Sociological Theory is one of two core courses that starts with the classical period and culminates with this course covering theory in recent times. Contemporary Sociological Theory examines the state of the field in the twentieth century, focusing on theoretical issues and frameworks that have come to define Sociology, its research and methods. It will include consideration of the Parsonian structural functionalism of the 1950s, the critique of Positivism that emerged during the 1960s, and the fragmentation of the field into the many perspectives and approaches there are today.

SOC 08339: Sociological Practice 3 s.h.
Prerequisites: SOC 08120
This course focuses on using sociological theories and concepts, research methods, and ethical decision-making processes to solve problems. Sociological practice occurs at all levels from the individual to societal. The course links the student to a variety of career pathways and occupational settings, including mental health, rehabilitation, work in prisons, and youth and family services.

SOC 08375: Sociological Research Methods 3 s.h.
Prerequisites: SOC 08120
This course introduces the student to the scientific methods used in the social sciences, the relationship between sociological theory and methodologies of data collection and analysis, the rudimentaries of basic types of data analysis and interpretation. Students will learn to read and summarize basic scientific reports, to critically analyze and evaluate reported research findings in the social sciences, and to recognize ethical concerns associated with sociological research. (Required for Sociology majors)

SOC 08376: Social Statistics 3 s.h.
Prerequisites: SOC 08120
This course familiarizes the student with the basics in elementary statistical methods used in the social sciences and the uses and misuses of statistics for various purposes. The student will learn to calculate and understand the proper use of basic statistics commonly used in the social sciences. (Required for Sociology majors)

SOC 08399: Sociology Of The Holocaust - Wi 3 s.h.
Prerequisites: SOC 08120
This course primarily deals with structural and experiential dimensions of the genocidal process affecting the European Jews, their ethnicity, culture and religious communality after 1933. Gypsies, Jehovah's Witnesses, prisoners of conscience, Russian prisoners of war, the Polish intelligentsia, who with the Jews, became a subject of Nazi persecution are also among those remembered. The Holocaust or shoah will provide a model for compassionate insight into the experience of other persecuted ethnic and religious minorities or any who suffer disadvantage due to long-standing discrimination, such as women and homosexuals. Special emphasis will be given to understanding the interpersonal processes which are part of survival and transcendence of situations where we find society against the self. Writing Intensive (WI)

SOC 08425: Senior Seminar In Sociology 3 s.h.
Prerequisites: SOC 08120, SOC 08331, SOC 08375 and SOC 08376 or permission of the instructor.
This seminar is a capstone experience designed to help students integrate what they have learned as sociology majors in a liberal arts setting. Students will engage in oral discussions and presentations as well as written exercises and essays to demonstrate an understanding of the sociological perspective, theoretical approaches and methods. The substantive focus of the seminar will vary by instructor.

SOC 08429: Organizational Response to Disasters and Crisis 3 s.h.
Prerequisite(s): SOC 08120
This course will help students understand the complex social organizations and organizational responses to disasters. A secondary goal of this course is to learn to understand and utilize the vast research published in this interdisciplinary field, while maintaining a specific focus of the sociological core of the research. Students will gain a familiarity with local, state and federal disaster-related organizations and how they respond within the bureaucratic structure to facilitate social recovery in the aftermath of disasters and crisis to enhance the chances of improving disaster preparedness, disaster mitigation, and disaster response to possible natural, human-induced or technological hazards. Furthermore, this course will include discussions of disaster-related organization and social policies, issues of disaster preparedness, the media and disaster response and challenges/opportunities of disaster recovery and prevention.

SOC 08430: Case Management Intervention In Sociological Practice 3 s.h.
Prerequisites: SOC 08120 and SOC 08223
This course emphasizes effective case management practice at the micro, mezzo, and macro levels of system intervention for populations at risk; Application of systems thinking to case management issues with individuals, families, and groups; Issues of aging, family mental health, child welfare, adult services and health are interwoven into practice scenarios in an effort to explore the multiple social problems faced by groups in a social service organization on a regular basis.

SOC 08494: Field Experience Seminar In Sociology - Wi 3 to 6 s.h.
Prerequisites: SOC 08120
This seminar provides the opportunity for students to be engaged in a field experience which will contribute to their sociological development. Students interact with their instructor and the other students in the seminar in the development, supervision and completion of individual projects. Areas of interest may include sociological research, analysis of social agencies and the development of affirmative social action programs.
Writing Intensive - WI

SOC 08575: Social Determinants of Health: Theory and Intervention in Urban Settings 3 s.h.
This course expands categories of disease risk beyond disease pathology and individual factors to psychological and sociological phenomena within an urban context. Moreover, this course seeks to describe the relationship between these conditions and health or health outcomes focused on factors such as water and air quality and food safety. More recent public health efforts have identified a broader array of conditions affecting health, including community design, housing, employment, access to health care, access to healthy foods, environmental pollutants, and occupational safety. The link between social determinants of health, including social, economic, and environmental conditions, and health outcomes is widely recognized in the public health literature to address persistent and pervasive health disparities.

SOC 08578: Critical Race Theory: Application and Intervention 3 s.h.
Students will explore the social construction of race and the subsequent implications this phenomenon has for particular members of society. Building upon the origins of the Critical Legal Studies Movement and Critical Raced Theory (CRT), students will examine their own dispositions for significant issues from the centrality of race, class and gender to better understand the need for becoming social justice advocates while learning a variety of social justice intervention strategies. Specific attention will be focused on the medical/clinical setting where issues of race, class and gender can pose barriers to culturally competent care for clients.

SOC 08599: Urban Environmental Health 3 s.h.
This course examines a broad range of factors affecting public health in urban environments within the context of essential formal public health infrastructures and informal settlements. An in-depth analysis of how increased exposures of industrial toxins, sanitation, air and water quality, poverty, geographic dispersion and how social environments place stress on city inhabitants collectively affect a city's health, as well as how these cities can respond to meet the increased challenges will be explored.

SOC 08600: Social Experience of City Life and Urban Inequalities 3 s.h.
This course will utilize a social psychological perspective, symbolic interaction, to understand urban dynamics. The course will focus on the study of the historical transformation of the city and the creation of social and psychological order in cities, an in-depth study of how the physical and social settings of cities influence health and behavior and how reciprocally urban behavior influences the physical and social settings. A considerable amount of time will analyze urban public behavior and its social psychological consequences in terms of how people conduct their daily routines with strangers, friends, relatives, and neighbors. Everyday interaction patterns of urbanities – pedestrian, transportation, shopping patterns, sports, parks,

playgrounds, museums, theaters, etc. – will be analyzed. Moreover, attention will be turned to the study of urban communities and lifestyles of different social classes concerning urban inequality and social differences. The social and psychological consequence of living in the city is a major theme of concern for this course.

SOC 08690: Urban Research Studio 3 s.h.
From community-based research and data collection to conduct original research to policy analysis, program evaluation, or projects that introduce new novel approached to addressing urban health issues, this is a project-based course that can take a variety of formats. Ideally, with the consultation of an advisor, each participant in this course will undertake a research project. The results of this research may be an academic paper, a health policy position paper, a community education documentary or the submission of a grant application to seek funding for future programmatic needs or future research.

THD 07501: Introduction To Graduate Theatre Study 2 s.h.
This course examines basic tools for graduate research in theatre. Students learn to analyze, support and present written research at the level expected of a graduate student. Their writing style will be evaluated and writing exercises will be critiqued. In addition, students will review scholarly documentation and look at various approaches the writer can take to assemble a thesis proposal.

THD 07502: Studies In World Theatre History And Criticism 3 s.h.
Through the study of landmark works of drama and dramatic theory, this course investigates style, form and production methodology in selected periods of European and Asian theatre from the Classical Age to 1915. A research paper is required.

THD 07503: Studies In American Theatre History And Criticism 3 s.h.
Building on student background and interest, this course will focus on the history of theatre in America from the colonial period through America's emergence as a world theatre force (the work of O'Neill and others) to the post-modern experiments of today. Students will investigate the work of major playwrights, critics, theatre practitioners and theorists across a broad cultural and social spectrum.

THD 07505: Independent Study In Graduate Theatre And Arts Administration 1 to 3 s.h.
Prerequisite: Permission of the departmentGraduate Committee
Students will pursue research in an area of theatre study determined by the student in consultation with the adviser. The project can include examination of performance activities, historical or critical concerns or any other area of concern to the student.

THD 07507: Challenges In Design & Technical Production 3 s.h.
The activity in this course will examine specific set, costume and lighting design and technical production challenges presented by the stylistic and physical demands of a script. The student will be required to research and create practical solutions within an overall design concept.

THD 07508: Seminar In Directing: Working With The Actor 3 s.h.
This course explores techniques employed by the director working with actors during the rehearsal period. Topics include: conducting efficient rehearsals, improving physical and vocal effectiveness, guiding characterizations, stimulating emotional credibility and creating ensemble. Examination of source works on acting and directing is augmented by observation and demonstration.

THD 07509: Special Problems In Directing 3 s.h.
Utilizing research, discussion and a laboratory format, the student will explore advanced concerns of staging and style. This course will focus on topics selected from the following: specialized blocking situations; regionalisms, dialect and verse dialogue; historical production styles; non-realistic production styles; post-modern approaches to acting and directing; the role of gender in directing; the semiotics of directing. The course culminates in a final scene project.

THD 07511: Production/Performance/Arts Administration Project 3 to 6 s.h.
Prerequisite: Permission of the departmentGraduate Committee
This course enables students to use production or arts administrative work as a centerpiece for a reflective and faculty supervised research project. Students may write, design, direct, choreograph, perform or conduct practical field research in arts administration either on the Rowan campus or at a faculty approved professional arts venue. Combined with further research and writing, the project provides the student with an in-depth look at production activity in a wider context. The prospective project must be approved by and supervised by department faculty. This project may also serve as the capstone experience for the M.A.in Theatre: Arts Administration or the Graduate Certificate in Theatre.

THD 07515: Internship In The Arts 3 to 6 s.h.
Prerequisite: Permission of the departmentGraduate Committee
This course offers credit for faculty supervised, practical experience with a theatre or arts-related company, in acting, directing, design/production, management or dramaturgy. In general, 3 semester hours are given for a full semester or summer in such a setting and students must complete a comprehensive, reflective report and/or journal of their activities. The course may be repeated to a maximum of 6 S.H.. The prospective internship and duties must be approved by and supervised by department faculty in advance.

THD 07520: Thesis Research And Writing 3 to 6 s.h.
Completion of 17 s.h. in the theatre program and approval of advisor is required. This credit is earned for time spent researching and writing the master's thesis under the supervision of a faculty adviser. The student reports to the adviser on a regular basis during this period. The finished thesis must be approved by a committee composed of the adviser and two other faculty designated by the department. The 6 s.h. of credit may be taken all at one time or be divided between two terms (3 s.h. each).

THD 07525: Theory And Practice In Teaching Theatre K-12 3 s.h.
This course presents teaching/learning theory and its application in K-12 theatre education. Students will learn to design and teach theatre arts experiences, observe and evaluate teaching, and develop resources, including instructional plans for a multi-week unit, for teaching at the elementary and secondary level. Through this course, students will actively learn the knowledge and skills needed to teach an effective K-12 theatre curriculum.

THD 07530: ARTS ADMINISTRATION LEADERSHIP 3 s.h.
This course provides an overview of the administrative functions of non-profit arts organizations and explores the theories and practices behind decision-making in arts organizations today. The course will focus on analyzing concepts for managing arts organizations, including organizational plans, managing boards, fund-raising, human resources, facilities, program development, and effective evaluation.

THD 07531: Producing And The Arts 3 s.h.
This course examines the relationship between the artistic quality and the financial reality of an arts organization. Through lecture, discussion, and projects, students learn about basic accounting, short- and long-term budgeting and planning, and financial managment in relation to arts organizations.

THD 07532: Arts Planning: An Elegant Process 3 s.h.
The purpose of this course is to introduce students to the artistic process as it relates to planning. By applying the artistic process to planning as the unifying principle, students will understand how artistic behaviors inform organizations to achieve health and dynamic balance. Through lectures, written assignments and discussion students will be led through a planning process and examine professional leadership, vision, core beliefs and values, internal and external relationships, organizational format and equation, planning, assessment and adaptive processes.

THD 07533: Audience Development 3 s.h.
The purpose of this course is to provide an overview of basic arts and audience development, behavior and research. Coursework assists students in forming a comprehensive understanding of audience development, while providing frameworks for the practical application of audience development in non-profit arts organizations.

THD 07534: Education & Outreach Programs In The Arts 3 s.h.
Education programs allow arts institutions to interact with their communities in a deeply connected manner, build future audiences and provide both children and adults with a deeper appreciation for the place of the arts in their lives. This course studies the development and implementation of such programs within arts institutions ranging across the span of all the artistic disciplines.

THD 07535: Curatorial Practice In The Arts 3 s.h.
This course focuses on the dynamic field of curatorial practice in contemporary art and performance. Through the study of the changing perception of the role of the curator as one who has traditionally "cared for" objects of art, to one who innovates, mediates, critiques and produces, students will gain knowledge of how exhibitions bring works of art and performance to the public. In addition students will research the role of technology and other evolving forms of curatorial practice.

THD 07536: Fundraising & Development for the Arts 3 s.h.
This course focuses on how fundraising and development supports arts organizations and aids in setting and achieving institutional goals and missions. Students will prepare an annual fundraising plan, a long form grant proposal, learn to determine program fundability and identify arts funding opportunities across four funding categories: individuals, foundations, corporations, and government agencies. Assignments also include setting realistic goals and objectives for different arts fundraising/development activities, evaluating success and sustainability to secure future funding and using new media, print, broadcast and digital media to build support for their chosen arts organization.

THD 07537: Advocacy and Arts Policy 3 s.h.
What is public policy? How do we define 'Arts" as a policy sector? What are the points of view of individuals, communities and organizations and how do they impact the development of government policies for the arts? Students will examine research to develop a broader framework related to the relevance and importance of the arts in our society. Students will develop an understanding of the relationship between public policy and the arts in the United States. This course is designed for students with the knowledge and skills to craft an effective argument about arts policy, to make a policy recommendation based on research and analysis and to present that argument.

MAWR 01546: CONTEMPORARY RHETORIC 3 s.h.
This course introduces students to rhetorical theory, classical through modern. Against a backdrop of Sophistic, Greek, and Roman rhetorics and their contemporary applications, students will consider major contemporary rhetorical theories by I.A. Richards, Kenneth Burke, James Kinneavy, and others. In addition to responses to these theoretical works, students will produce a rhetorical analysis of a text or texts from their own area of interest, investigating how the application of rhetorical strategies produces particular outcomes with particular audiences.

MAWR 01549: Issues In Composition Studies 3 s.h.
Issues in Composition Studies examines the dominant theories, texts and ways of knowing that are fundamental to the discipline of composition/rhetoric. Topics include current and historical perspectives on the composing process, the formation and functions of discourse communities, writing as a social process and methods of assessment. The course will demonstrate various avenues for research and teaching in composition and rhetorical studies, will provide students with knowledge necessary to construct a theoretical model for the everyday teaching of writing and will assist students in applying and refining that model.

MAWR 01554: Core I: Theories And Techniques Of Writing 3 s.h.
Core I offers an indepth examination of theories of composing, focusing on the interdisciplinary nature of writing through inquiry into rhetorical elements common to all writers, for example, genre, tone, audience, point of view, and voice. It also considers basic principles and techniques of writing, including narration, dialogue, exposition and style. Students will examine many genres of writing and compare and contrast the application of techniques to the differing genres.

MAWR 01555: Writing For Electronic Communities 3 s.h.
This course presents the rhetorical, social, and practical dimensions of writing in electronic (cyber) contexts. Students focus both on the various roles an individual creates and maintains when writing for different cybermedia formats and the kinds of conventions, concerns and grammars that exist in discrete electronic systems like the World Wide Web, listservs, distribution lists, the Intranet, e-mail, and hypertext. Seminar presentations and a semester-long project in a concentrated area of writing for a particular electronic community demonstrate students' ability to communicate on-line.

MAWR 01556: Assessment Of Writing 3 s.h.
Assessment of Writing examines the dominant methods, issues and concerns that are central to the discussion and evaluation of students' written work. Topics include current and historical perspectives on writing assessment, the use of various models of writing assessment, the political and legal issues connected to writing assessment, and the validity and reliability of assessment models. The course will introduce students to the types of assessment models used in the field of composition, will explore the effectiveness of comments on papers, and will examine how to assess errors in writing. This class will also provide students with knowledge necessary to apply a range of assessment models in the application of writing across multiple workplace situations, and will assist students in applying and refining those models to new developments in computer-assisted writing.

MAWR 01557: Writing Freelance Features 3 s.h.
Students in this graduate level writing course will learn how to develop ideas for feature-length stories (such as profiles, trend pieces and human interest pieces) and how to research and write features on a variety of topics. They will learn how to structure feature stories, including longer (8,000-plus words) stories; how to write feature leads and "nut grafs;" and how to edit their own work to prepare it for submission. Finally, they will learn how to develop and present stories and story ideas to editors at both print and digital publications and how to submit their completed work for publication.

MAWR 01558: Fiction Workshop 3 s.h.
Students will complete, through the composition of a first draft and revision, works of literary fiction with emphasis upon the short story. In addition, students will read a body of published stories that illustrates such elements of fiction as setting, point of view, characterization and dialogue. Students will develop an analytical vocabulary that enables them to read, interpret, and evaluate the work of other fiction writers. A major portion of this class will be given over to workshop sessions during which students share and evaluate each other's work. As a workshop, this course can be taken twice for credit.

MAWR 01559: Core II: Research Methods For Writers 3 s.h.
Prerequisite: MAWR 01554
Core II surveys non-quantitative research methods writers use. This class examines techniques of print and on-line research, interviewing, and case studies to develop the ability to weigh and assess the reliability and relevance of information. Students will learn to identify and present problems in writing using different perspectives and learn how these research styles guide a writer's interpretation of information. The course prepares students to develop their own descriptive research projects.

MAWR 01560: Managerial Communication 3 s.h.
Managerial Communication introduces students to the theoretical and practical insights of corporate communication. The course helps students develop leadership communication skills and is designed to improve communication skills for managers, information workers, and other professional writers. Students will learn about rhetorical theories and rhetorical strategies for responding to communication situations, current forms of corporate communication, effects of technology and globalization on corporate communication, and guidelines for ethical communication. Students will prepare a variety of professional quality documents in response to real world, case-based assignments.

MAWR 01561: Seminar I 3 s.h.
Prerequisites: MAWR 01554 and MAWR 01559
Seminar I addresses the "professionalizing" aspects of writing and demystifies the publication process; students will learn how to negotiate contractual agreements, how to prepare writing for publication, how to handle publishers' copy editing tactfully, whether to use a literary agent, and the publishing differences across the writing markets (scholarly versus trade, specialized trade publications, textbooks, creative outlets, Internet publishing, and so on). In addition, the class will have a short unit on grants and funding, as many writers need external financial support for their work. Students will explore the benefits of joining writers' associations and guilds and the types of responsibilities writers take on when writing for publication. Seminar I also introduces students to the Master's Project requirement and all students are expected to complete a written prospectus and begin the preliminary stages of their Master's Project.

MAWR 01564: Information Architecture 3 s.h.
Information Architecture explores the connections among web site usability, interactivity, design, and navigation principles as each relate to the written content. Students investigate how written content influences the look and user-friendliness of web sites. Specific issues addressed in the course include presenting content for audiences with disabilities or for non-English speakers; privacy and security concerns; and the rise of information anxiety in the general public.

MAWR 01565: Technical Writing 3 s.h.
Technical Writing introduces students to the rhetorical, ethical, and professional issues associated with technical communication. It focuses on the rhetorical principles behind standard formats and styles of technical documents. It explores topics such as, document design; ethics (including issues of product liability); editing, style, and mechanical correctness; the role of technology; and the impact of the global marketplace.

MAWR 01566: Editing The Literary Journal 3 s.h.
This course provides hands-on experience with the editorial and managerial processes involved in publishing a literary journal. Students will study successful journals and basic reference guides to determine criteria for success. Working with the instructor and various section editors, students will solicit, evaluate, and select submissions, communicate with contributors about editorial decisions, determine the layout and design of the journal, and distribute the journal. They will become knowledgeable about the funding mechanisms for literary journals, and they will work within the constraints of a budget. Because the syllabus complies with a standard publishing process for literary journals that extends throughout the academic year, contact hours are distributed over two semesters.

MAWR 01571: Seminar II 3 s.h.
Prerequisite: MAWR 01561
Seminar II prepares students to complete the required Master's Project. Students will develop their projects from the prospectus created in Seminar I, select Master's Project Advisors, and write the rough drafts of the first three installments of their projects under the guidance of the Graduate Program Coordinator. Students will then work with their Advisors to revise and polish their projects to present to the faculty and students in a symposium format.

MAWR 01575: Practicum in Teaching Composition 3 s.h.
The Practicum in Teaching Composition supports first-time graduate instructors in the Teaching Experience Program by introducing foundational concepts in Writing Studies and select theories in Composition/Rhetoric, and by exploring and modeling best pedagogical practices. The Practicum in Teaching Composition (MAWR 01575) develops a community of instructors through seminar-style discussions, collaborative projects, and reciprocal classroom observations. Assignments directly relate to students' professionalization as instructors and members of the field of Writing Studies. Students develop reflective teaching practices that prepare them to teach subsequent composition courses.

MAWR 01615: INDEPENDENT STUDY 3 s.h.

MAWR 01618: Special Topics 3 to 6 s.h.

MAWR 01620: Internet And Writing Studies 3 s.h.
This is a theory driven seminar course with a practical component wherein students will learn HTML, CSS, and how to compose web sites according to the latest theories on web design. Students will read scholarly texts that introduce them to the evolution of written communication and writing technologies, Internet studies, and hypertext theory. Students will use these texts and theories to both analyze and compose various web sites, including an online portfolio of work they would like to showcase for future employers or graduate schools.

MAWR 01621: Visual Rhetoric And Multimodal Composition 3 s.h.
This is a theory driven seminar course with a pracitcal component. Students will read scholarly texts that introduce them to theories on multimodality, semiotics, visual rhetoric, copyright, and remix. Students will use these theories to both analyze and compose visual texts using multiple modes of communication.

MAWR 01622: Publishing For Creative Writers 3 s.h.
In this course, students aspiring to become published authors will explore many facets of literary publishing, from submitting work to agents and editors to editing a manuscript in production and marketing a completed book. Students will examine the many complex processes by which a literary manuscript (novel, story collection, memoir, etc.) becomes a book. Students will learn how to submit creative work to literary magazines, to agents, and to publishers. They will submit at least one completed work (an essay, a story, or a poem) to an appropriate journal or magazine. They will write a query letter and a synopsis for one of their own book-length projects and develop a marketing plan for the projected work. They will learn the most common reasons that writing is rejected and how to avoid them. They will learn about the varied roles of agents and editors from the editorial process through the design, production and promotion of the book. They will learn about the importance of applying for grants and fellowships, of submitting to literary competitions, and of "networking" in the development of a writing career. Students with completed or nearly completed books may use their own manuscripts for all of the above assignments.

MAWR 01623: Writing Stories For Children And Young Adults 3 s.h.
Students in this course will study the rich variety of fiction and nonfiction narrative published for audiences ranging in age from juvenile to young adult. Students will learn to recognize the elements of a good story for children, to evaluate children's literature based on a knowledge of these elements, and to write stories for this audience. Students will read outstanding examples in the genre and write their own stories, working methodically from story idea through revision to completed manuscript. (Students may choose to write fiction or nonfiction and may focus on short or long form narrative.) Students will critique each other's stories in workshop sessions. Students will also study the contemporary scene in children's publishing and will learn how to submit their stories to magazine and book publishers. As a workshop, this course can be taken twice for credit.

MAWR 01630: Writing Difference 3 s.h.
This course contrasts writing in academic genres against a variety of other forms, such as personal, imaginative, and popular writing. Students examine perspectives on language difference from sociolinguistic, literacy, feminist and composition studies perspectives, and produce writing in hybrid, multigenre or mixed-genre styles.

MAWR 02505: Poetry Workshop 3 s.h.
This class will provide a forum for students to explore the strategies poets use in creative expression. The students will develop an analytical vocabulary that allows them to read, interpret, and evaluate the work of other poets. A major portion of the class will be given over to workshop sessions, where students can share and evaluate each other's work. Students will also become familiar with a body of published poetry that illustrates techniques of expression, especially those that can be applied, not only to poetry, but to other genres of creative writing. As a workshop, this course can be taken twice for credit.

MAWR 02515: Creative Nonfiction Workshop 3 s.h.
Teaching students the form, structure and techniques of creative nonfiction, this workshop-style course addresses the issues of style, point of view, narrative and dramatic coherence as it applies to personal essay, the treatment of memory data, the use of detail in scene-setting and the connection between fictional and poetic strategies in nonfiction writing. In addition to their own work, students read and analyze contemporary creative nonfiction and classics in the genre; these texts serve as models for students to help them locate themselves within the large framework of creative nonfiction. Students will write several major pieces of varying lengths and types. As a workshop, this course can be taken twice for credit.

MAWR 02520: Writing The Novel 3 s.h.
Writing the Novel teaches students the structure, technique, and apparatus of the literary novel, and provides feedback and guidance through extensive instructor critique and workshop-style evaluation. It is recommended that students enrolling in this course have some prior practice in literary novel-writing or at least a strong background in reading the literary novel. Students are required to submit four consecutive novel chapters with synopsis by the end of the course.

MAWR 02521: Writing And Publishing The Nonfiction Book 3 s.h.
Writing and Publishing the Nonfiction book is about the culture and commerce of publishing, as well as the process of writing a nonfiction book. Students finish a proposal for a nonfiction book by the end of this semester and submit it to a commercial publisher. They receive guidance and criticism from the instructor throughout the entire process, submitting and re-submitting the proposals and sample chapters several times during the semester. In addition, students analyze book markets, prepare detailed proposals for their book idea, and present their idea to a mock editiorial board making decisions about the publishing promise of the book. During lecture, students develop a clear understanding of the symbiotic relationships among ideas, authors, agents, publishers, and the buying public.

MAWR 02522: Nonfiction Workshop 3 s.h.
The Nonfiction Workshop provides an in-depth examination of nonfiction genres, including news reporting, features, opinion, immersion journalism, biography, criticism, and social commentary and analysis. Lectures cover the methods, techniques, and ethics of nonfiction. Various nonfiction markets and market requirements are discussed. Students read model selections in various nonfiction genres and experiment with writing their own similar selections, which are discussed and critiqued. Students complete substantial published articles and/or book selections in their chosen nonfiction genres. As a workshop, this course can be taken twice for credit.

MAWR 02523: Writing The Memoir 3 s.h.
Students receive in-depth instruction in writing the memoir, one of the most engaging and popular literary forms today. Students will read widely from selected memoirs, write three short memoirs that may stand alone or be interrelated, and experience the workshop method of critiquing manuscripts. Students will focus on characterization, conflict, point-of-view, and other literary elements traditionally associated with the narrative form as they develop their memoirs.

MAWR 02524: Writing the Graphic Novel: Theory and Practice 3 s.h.
This course explores the graphic novel genre and its incarnations through readings, writings, and discussion. An original script for a graphic short story or beginning of a novel will be developed in a series of assignments, and discussed and critiqued in a workshop environment. This course may not be offered annually.

MAWR 03520: Master of Arts in Writing Internship 3 s.h.
Prerequisite(s): Approval of Graduate Advisor
Under professional supervision in the field, students put into practice theories and skills learned in the classroom. Students' primary duties invlolve writing, though types and modes of writing (including electronic modes) may vary. Internship experience totals 120 hours of work. Students maintain a detailed log of working hours, prepare a portfolio of work completed in the internship, write an analysis of the internship experience and are evaluated by their site supervisor.

MAWR 07500: The Essay: Art And Craft 3 s.h.
This course introduces students to the essay as genre, its evolution, and current status. Emphasis is on esthetics, craft, and technique. Students will engage in both analysis and essay writing as means toward achieving a theoretical understanding of the form.

WA 01200: Introduction To Writing Arts 3 s.h.
Prerequisites: COMP 01111 and COMP 01112
Introduction to Writing Arts familiarizes students with the disciplinary underpinnings of Writing Arts, providing a background in the history of writing, current writing theories, writing as technology, and the writing professions. The course covers these issues within the context of the Writing Arts major, enabling students to situate themselves in a community of writers and language professionals and preparing them for upper-level cousework.

WA 01300: The Writer's Mind - Wi 3 s.h.
Prerequisites: COMP 01112 and 45 credits required
The Writer's Mind increases students' understanding of themselves as writers by learning craft-specific approaches to writing, and by developing critical awareness of their own and others' writing. Working in different genres of writing, students will gain experience in effective revision strategies, in analyzing audience, and in visual aspects of the printed or electronic page.

WA 01301: Writing, Research & Technology 3 s.h.
Prerequisite(s): WA 07200 with concurrent enrollment allowed, COMP 01112, and 60 credits required.
This course presents the rhetorical, social, and practical dimensions of writing and researching in networked contexts. Students analyze and compose with audio, video, image and text, using a variety of digital writing practices. Students blend research methods informed by current literacy theories and modalities, allowing them to explore meaning-making, circulation, and the ethical ramifications of writing within digital communities.

WA 01302: Introduction To Technical Writing 3 s.h.
This course introduces students to both the field of technical writing and the uses of technical writing within a variety of professions. Students will learn how technical writers use document design strategies based on rhetorical principles to respond to communication challenges. Through practice with a variety of genres, students will gain experience with audience analysis, communication ethics, research, collaboration, professional style, and editing. The course culminates in a writing project based on a professional, academic, or community issue of the student's choosing. Students are encouraged, and will be assisted, in designing projects that reflect their professional interests.

WA 01304: Writing Creative Nonfiction-WI 3 s.h.
Prerequisites: COMP 01112 AND WA 07290
Addressing craft and ethical concerns, this course introduces students to creative nonfiction. In the study of this "fourth genre" of creative writing, focus is on those elements, e.g., imagery, characterization, diction, that make nonfiction creative. Students will write in a number of subgenres, such as memoir, literacy journalism, and the personal essay, and will be exposed to a variety of narrative structures. They will also read and analyze representative professional writing to provide contexts for their own work, which will be critiqued by both the instructor and their peers. Special attention will be paid to the evolution of the student writer's personal voice.

WA 01358: Writing and Craft for Elementary Students 1 s.h.
This course teaches early childhood and elementary education majors how to apply a writing workshop approach emphasizing craft to increase young writers' abilities.

WA 01370: Professions In Writing Arts: Post-Graduate Options 1 s.h.
Prerequisites: WA 07200 and 30 earned hours
Professions in Writing Arts: Post-Graduate Options introduces students to the various and wide-ranging opportunities available to writing arts students by exploring career, graduate school and other professional options in the field of writing. Class topics may include statements of purpose and letters of application; internships, field experience, and volunteerism; and publishing opportunities. Professionalism and entrepreneurial approaches to job seeking are also emphasized. Discussions and workshops are supplemented by guest speakers and readings.

WA 01400: Writing For The Workplace-Wi 3 s.h.
Prerequisites: 75 credits required
Writing for the Workplace gives students practice in the writing activities common to most careers. Assignments include resumes and cover letters, field and progress reports, abstracts of professional articles, and proposals. Students can also expect to deliver one or two brief oral presentations. The course is restricted to juniors and seniors.

WA 01401: The Writer's Mind 3 s.h.
Prerequisites: COMP 01112 and 45 credits required
The Writer's Mind increases students' understanding of themselves as writers by learning craft-specific approaches to writing, and by developing critical awareness of their own and others' writing. Working in different genres of writing, students will gain experience in effective revision strategies, in analyzing audience, and in visual aspects of the printed or electronic page.

WA 01405: Senior Seminar: Evaluating Writing 3 s.h.
Prerequisites: COMP 01112 and WA 07200and 90 credits required
This course examines issues and methods of assessing writing. Students will explore a wide variety of tools used to evaluate writing, such as portfolio and holistic assessment, and they will discuss the validity and reliability of many assessment models.

WA 01409: Tutoring Writing 3 s.h.
This course provides students theory and practice in turoring writing at all educational levels. It covers the writing process, the particulars of the tutorial relationship and issues of working with writers from a variety of backgrounds and abilities. It is recommended for students who are presently engaged in the tutoring of writing and those who may teach writing in one-on-one or small-group settings in the future

WA 01450: Writing Arts Portfolio Seminar 1 s.h.
Prerequisites: WA 01300 and WA 01301 and WA 01405
Seniors majoring in Writing Arts will have an opportunity to reflect on the work undertaken as part of the writing arts major. The course asks students to construct and submit a portfolio consisting of work products both from those courses included in the core and from a selection of courses in the required elective clusters. A written reflection on the intellectual and learning experience derived from these courses as evidenced by the items included comprises the written requirement for this course.

WA 07290: Creative Writing I 3 s.h.
Prerequisite: COMP 01111 or COMP 01105
This course concentrates on developing students' skills in writing various kinds of poems and in developing fiction techniques. In addition to exploring different poetic forms, students learn how to create characters, establish conflict, and develop a plot while writing a short story. Students examine the work of professional poets and fiction writers.

WA 07291: Creative Writing II 3 s.h.
Prerequisite: WA 07290 or CRWR 07290
Building upon the foundations learned in Creative Writing I, students in Creative Writing II will engage in more specific practice in the conventions of short story writing, creative nonfiction and poetry. Students will have directed assignments encouraging experimentation in multiple genres but will prepare a final portfolio that may give more emphasis to a genre of their choice. Special emphasis will be placed on reading examples of these conventions and learning how writers graft or borrow techniques (dialogue, dramatic monologue, voice, description) from one genre to apply it in another.

WA 07309: Writing Children's Stories 3 s.h.
Prerequisite: 30 credits required
This course focuses on fiction written for juveniles and young adults. Students examine the rich variety of literature published for young people. They do exercises, write complete stories, critique each other's writing in workshops and meet with the teacher for individual conferences on their work. They also learn how to submit manuscripts to magazine and book publishers.

WA 07391: Writing Fiction 3 s.h.
Prerequisites: WA 07290 or WA 07291 or CRWR 07290 or CRWR 07291
This class will provide a forum for students to explore the strategies fiction writers use in creative expression, especially in writing the short story. Students will develop an analytical vocabulary that allows them to read, interpret, and evaluate the work of other fiction writers. A major portion of the class will be given over to workshop sessions, where students can share and evaluate each other's work. Students will also become familiar with a body of published short stories that illustrate techniques of expression such as setting, point of view, characterization, dialogue, and other elements of fiction.

WA 07392: Fundamentals Of Playwriting 3 s.h.
This course covers the methods of developing and writing a play. During the course, students analyze plays, and outline and work on the draft of a full-length play. This course may not be offered annually.

WA 07395: Writing Poetry 3 s.h.
Prerequisite: WA 07290 or CRWR 07290
This class will provide a forum for students to explore the strategies poets use in creative expression. The students will develop an analytical vocabulary that allows them to read, interpret, and evaluate the work of other poets. A major portion of the class will be given over to workshop sessions, where students can share and evaluate each other's work. Students will also become familiar with a body of published poetry that illustrates techniques of expression such as imagery, metaphor, voice, tone, the music and strategy of the line, and other elements of poetry.

WA 07410: Tutoring Writing 3 s.h.
This course provides students theory and practice in turoring writing at all educational levels. It covers the writing process, the particulars of the tutorial relationship and issues of working with writers from a variety of backgrounds and abilities. It is recommended for students who are presently engaged in the tutoring of writing and those who may teach writing in one-on-one or small-group settings in the future

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Schneider, Joan K. — Managing Administrative Assistant, Office of Research

Scott, Eileen — Associate Vice President Human Resources
B.S., Rowan University

Scully, Joseph F., Jr. — Senior Vice President for Finance/CFO
B.S., M.B.A., LaSalle University; CPA

Shealey, Valdoston — Assistant General Counsel

Sheppard, Caren — Director of Pension and Benefits
Michigan University, MS

Showers, Joanne — Managing Administrative Assistant, Office of the Vice President for Employee and Labor Relations
B.S. Seton Hall

Sledjeski, Eve — Assistant Dean
B.S., Mary Washington College; M.A., Kent State University; Ph.D., Kent State University

Sosa, Horacio — Vice President for Global Learning and Partnerships
B.S., UNLP, Argentina; M.S., Stanford University; Ph.D., Stanford University,

Stamatiades, Nicholas — Director, Operations and Principal Business Officer (CMSRU)
MBA, CMPE

Stevenson, Sheila — Director of Sports Information
B.A., Rochester Institute of Technology

Stewart, Melanie — Associate Dean, College of Performing Arts
B.A. Webster College, Theatre Conservatory; M.F.A. Temple University

Sukumaran, Beena — Professor and Department Head, Civil and Environmental Engineering
B.S., Trivandrum Engineering College, India; M.S., Auburn University; Ph.D. Purdue University

Tallarida, Ronald J. — Vice President for University Advancement
B.A., Temple University

Talley, Lee — Dean, Honors College
B.A., Cornell University; M.A., Ph.D., Princeton University

Taylor, Tyrone — Director of Campus Security and Student Programs
A.S., Pierce College; B.S., Glassboro State College; M.A., Rowan University

Tinnin, Drew — Senior Director of Orientation and Student Leadership Programs
B.A., Southeast Missouri State University; M.A., Bowling Green State University

Toporski, Neil — Director of Instructional Technology Services
B.S., University of Wisconsin-Madison; M.S., Clarion University; Ed.D., Lehigh University

Trowsdale, Jeremy — Director of Employee Learning and Development
B.S.

Tweedie, Sanford — Dean, College of Communication and Creative Arts
B.A., University of Michigan; M.A., Eastern Michigan University; Ph.D., University of Wisconsin-Milwaukee

Van Brunt, Margaret — Assistant Dean, Rohrer College of Business
B.A., Rutgers University; CPA

Varela, Tomas — Advisor, Office of Health Professions
B.S., Temple University; MPH, The George Washington University

Veacock, Peggy — Director of Advancement/Administrator, Rowan University Foundation
B.A., Rowan University

Waddington, James — Director of University Housing Systems and Logistics
B.S., Saint Peter's College; M.A. Montclair State University

Walsh, Susan — Managing Administrative Assistant, University Advancement
N/A

Weinstein, Steven David — Executive Vice President for Policy and External Relationships/Partnerships
J.D.

Wheatcroft, Melissa — General Counsel
J.D. Rutgers Camden; B.A., Saint Joseph's University

Williams Shealey, Monika — Dean, College of Education
B.S., University of South Florida M.S., University of South Florida Ed.S, University of Miami Ph.D., University of Central Florida

Willse, Christine — Interim Associate Director of Financial Aid
B.A., Thomas Edison State College; M.B.A., Norwich University

Woodruff, John — Director of Academic Success Center
B.A., St. Francis College; M.S., St. Joseph's University

Woodside, Scott — Director for Student Health Services
BSN, Villanova University; MSN & MBA, LaSalle University

Yurak, Tricia J. — Associate Provost for Academic Affairs
B.S., Northern Kentucky University; M.S., Ohio University; Ph.D., Ohio University

Zabinski, John J. — Senior Vice President for University Advancement/Executive Director, Rowan University Foundation
M.B.A., Saint Joseph's University; B.S., Villanova University

Zazzali, Robert — Senior Vice President for Community and Economic Development
B.A., M.A., Glassboro State College (Rowan); M.A., Rutgers University

diNovi, Kristen — Assistant Dean, Honors
B.A., Montclair State University; M.Ed, Ph.D., Temple University

General Information

Campus Buildings

301 High Street
The three story building is home to the Rowan University Art Gallery and is home to several academic offices and classrooms.

6 High Street
The former bank building is now home to the administrative offices of the College of Communication and Creative Arts.

Barnes & Nobles at Rowan University
Located on Rowan Boulevard, this now serves as the University Bookstore.

Bole Annex
Opened in the spring of 1970, Bole Annex houses the Department of Public Safety.

Bole Hall
Robert D. Bole Hall is the administrative center of the University. It contains the offices of the President, Provost, University finances, and The Office of General Counsel. It is named after former Dean Robert Bole.

Bozorth Hall
Named for a former registrar, Loriot Bozorth, the building was originally opened in 1954 as the campus demonstration elementary school. Today, Bozorth houses the College of Communication offices, Rowan Radio, Rowan TV, a distance learning classroom, film-editing facilities, a computer-equipped journalism newsroom, an advertising/PR client suite, a layout room and a computer-equipped writing laboratory.

Bunce Hall
The first building on campus, Edgar J. Bunce Hall was opened in 1923 and is named for a former president of the University. It is home to the departments of English, Foreign Languages and Literatures, Philosophy and Religion, and Theatre and Dance. This building also features classroom space and Tohill Auditorium.

Business Hall
Opened in 2017, Business Hall is on Rt. 322 and is home to nearly 2,000 business majors.

CREATEs
Opened in 2017, the Center for Research and Education in Advanced Transportation Engineering Systems is located at the South Jersey Technology Park.

Camden Academic Building
The Camden campus is located in the historic First National Bank and Trust Company building and annex, on the corner of Cooper and Broadway, and serves as the heart of Rowan University's Camden campus. The Camden campus provides an array of services for students, faculty, and staff.

Campbell Library
Opened in 1995, the Keith and Shirley Campbell Library features 118,000-square feet of research, study, archive and office space. It provides connectivity to the campus network, enabling access to many databases and online resources. The Library was named the Keith and Shirley Campbell Library in recognition of the Campbells' generous gift of an endowment for the facility in 2000. The Departments of Sociology and Anthropology and the Department of Law and Justice are housed on the 5th floor.

Carriage House
Built in 1849 to service the Hollybush Mansion, this building now houses University Publications.

Cassady Maintenance Building
Opened in 1971, the Otto P. Cassady Maintenance Building, named for a former engineer in charge of maintenance, is the main office complex for maintenance operations.

Chamberlain Student Center

The Student Center opened in 1974 and serves as a campus focal point where students, faculty, staff and community members congregate for a wide range of events, services and functions. It houses offices for student organizations and publications as well as several administrative offices. The following facilities are located in the three-level center: the information desk, I.D. room, mailroom, an ATM machine, Eynon Ballroom, meeting and conference rooms and eating areas, including the dining hall, a food court, snack bar, outdoor dining terrace, Profs Place and the Owl's Nest Restaurant.

Cooper Medical School of Rowan University

The six story building, located in Camden, is home to Rowan's M.D. granting medical School.

Edgewood Park Apartments

This four-building complex houses 24 apartments. Four students live in each apartment, which contains two bedrooms, a living room, dining room, kitchen and bathroom.

Engineering Hall

Opened in 2017, it sits next to the Henry M. Rowan Hall, home of the College of Engineering.

Enterprise Center

Located on Rowan Boulevard, the Enterprise Center opened in 2013 and is home to the College of Graduate and Continuing Education.

Esby Gym

The Roland A. Esbjornsen Hall houses the gymnasium, swimming pool, classrooms and the Health and Exercise Science faculty offices. The building is named after a former chairman of the Health and Exercise Science Department.

Evergreen Hall

Evergreen houses 204 students. The building is three stories tall and is separated into two wings. Rooms are arranged in suites. Each suite contains two double bedrooms and a bath.

Hawthorn Hall

Formerly a student residence facility, Hawthorn Hall is one of the homes of the College of Communication.

Hering Central Heating and Cooling Plant

The J. Leonard Hering Heating Plant, named for a former superintendent of maintenance, houses the centralized heating and cogeneration equipment.

Herman D. James Hall

Herman D. James Hall, opened January 2006, is home to the College of Education. The three-story, 135,000-sq. foot building features academic distance-learning facilities, an early childhood development center and an assortment of labs and outreach centers as well as classroom space.

Holly Pointe Commons

Opened in 2017, HPC is a 1,400 bed residence hall built with private funds.

Hollybush Mansion

Built in 1849, the building was the site of the historic summit meeting between President Lyndon B. Johnson and Soviet Premier Alexei B. Kosygin in 1967. The building now serves as a museum and meeting center.

Laurel and Oak Halls

Laurel and Oak are the University's first residence halls. Today, each building houses 45 students.

Linden Hall

Formerly a student residence facility, Linden Hall houses a veriety of administrative offices.

Memorial Hall

Opened in 1956, the building serves as the center for information (computer) resources, housing the campus help desk, Web Services and the Duplicating Center. A dance studio is also in the building.

Mimosa Hall

Mimosa accommodates 305 students. Rooms are arranged by suites, and each suite contains two to three double bedrooms and a bath.

Mullica Hall
Mullica accommodates 103 students. Rooms are arranged by suites, and each suite contains two double bedrooms and a bath.

Robinson Hall
Named after Thomas E. Robinson, a former Rowan University president, this is one of the largest classroom buildings on campus. It is home to several departments of the College of Liberal Arts & Sciences. The core of the building consists of classrooms and seminar rooms.

Rowan Boulevard Apartments
Rowan Boulevard Apartments, is made up of two, four-story buildings that house 884 students in 28 one-bedroom efficiency units and 214 four-bedroom suites. The suites include two bathrooms, a kitchen, breakfast nook and living room area. The complex also contains exercise and weight rooms, meeting rooms, laundry facilities and a Public Safety satellite office.

Rowan Hall
Opened in January 1998, Henry M. Rowan Hall is the home of the College of Engineering. The 95,000-sq. foot building features three floors of offices, classrooms, labs and the 115-seat Betty Rowan Auditorium.

Sangree Greenhouse
Built in 1923, the John Sangree Greenhouse is one of the oldest structures on campus. A preservation and renovation project was completed on this facility in 1998.

Savitz Hall
Originally the University library, this building was completely renovated to house all of the student service functions, including the offices of the vice president for Student Affairs, Dean of Students, Career and Academic Planning, Developmental Education, Tutoring, Basic Skills/Testing, Admissions, Counseling, EOF/MAP, Registrar, Financial Aid, Revenue and Collections, Residential Learning & University Housing, Multicultural/International Affairs, Specialized Services, the Center for Service Learning and Volunteerism, the Honors Program and Women's Studies. The building is named after Jerohn Savitz, the University's first president.

Science Hall
Dedicated in 2003, the facility features the 102-seat Edelman Planetarium, a rooftop observatory with 16-inch telescope, a rooftop greenhouse, 27 teaching laboratories and 22 research labs. Its 150,000 square feet of space is spread over three floors. Housed here are offices for the departments of Biology, Chemistry and Biochemistry, and Physics and Astronomy.

Shpeen Hall
Alvin Shpeen Hall is located one block off of the east corner of campus, on Academy Street. The University purchased the former elementary school building from Glassboro and refurbished it to house offices. Today, Shpeen Hall is home to the R. Grace Bagg Alumni Center and the Rowan Foundation. Alvin Shpeen was a mayor of Glassboro.It is home to University Advancement, including Alumni Relations.

South Jersey Technology Park at Rowan University
The Samuel H. Jones Innovation Center is a 45,000 square-foot facility located at the South Jersey Technology Park on Rowan's West campus that provides engineering laboratory, web-laboratory and technology company incubation all within a single facility. In partnership with Rowan's College of Business, the Technology Park offers collaboration and consulting services, product feasibility, development and commercialization services, training seminars and continuing education courses in entrepreneurship for new and established businesses.

Stratford Campus
Home to Rowan's D.O. granting medical school.

Student Recreation Center
"Opened in 1993, the Student Recreation Center is a comprehensive recreation sports facility. The three-story, 76,000-square-foot building houses an eight-lane swimming pool, a three-lane indoor running track, a three-court multi-sport gym, five racquetball courts, an aerobics room, fitness and free-weight rooms, a conference room and complete locker/shower room facilities. Administrative offices coordinate various programs, including informal sports, intramural sports and fitness activities for students, faculty and staff. "

Team House
Opened in 1971, the Team House contains locker rooms; training facilities; and intercollegiate athletics, coaching and staff offices. It was renovated and expanded in 2013.

The North Halls: Chestnut, Magnolia and Willow Halls

These buildings house 750 students. Students live in suites and share restroom facilities.

Townhouses

Opened in 2004, the on-campus, 113-unit townhouse complex along Route 322 features four- and six-bedroom configurations convenient to classes and other activities. The complex was built adjacent to a new parking garage and 5,000-square-foot community center with laundry facilities, a game room and meeting space.

Triad Apartments

Triad features 81 apartments which are carpeted, air-cooled and furnished. A variety of apartment types are available to accommodate 288 students in a co-ed living environment.

Wellness Center

Seymour Winans Hall is named for a former faculty member. It is now home to Counseling & Psychological Services and the Wellness Center, formerly the Student Health Center.

Westby Hall

Completed in 1967, the Cleve O. Westby Hall Arts Building, named in honor of the former director of county and state college construction, contains art studios for ceramics, sculpture, jewelry/metals, painting, printmaking and photography, computer labs, classrooms, a lecture hall for 110 students, exhibition galleries, and faculty offices.

Whitney Center

Located on Rowan Boulevard, the Whitney Center (opened 2012) features stores on the 1st floor and student housing on top. It is also home to the Thomas Bantivoglia Honors Program and student apartments.

Wilson Hall

Harold Wilson Hall, named after a former faculty member, opened in 1972 and is primarily home to the performing arts. The building contains two large rehearsal rooms, Boyd Recital Hall, practice rooms, classrooms, two student lounges, a music library, faculty offices, the concert box office and W. Clarke Pfleeger Hall—a 1,000 seat auditorium. The dean of the College of Fine & Performing Arts, and Music Department are also located in the building.

General Information

Administrative Offices Telephone Numbers

Academic Affairs	856.256.4011
Academic Success Center	856.256.4259
Admissions (Undergraduate)	856.256.4200
Admissions - Graduate (Rowan Global)	856.256.4747
Alumni Engagement	856.256.5400
ASCEND (formerly EOF/MAP)	856.256.4080
Bursar	856.256.4150
Camden Campus	856.361.2900
Campbell Library	856.256.4800
Community Standards	856.256.4242
Conference and Event Services	856.256.5446
Dean, Business	856.256.4025
Dean, Communication & Creative Arts	856.256.4340
Dean, Education	856.256.4750
Dean, Engineering	856.256.5300
Dean, Performing Arts	856.256.4550
Vice President, Global Learning & Partnerships	856.256.4129
Dean, Humanities & Social Sciences	856.256.5840
Dean, Science & Mathematics	856.256.4850
Disability Resources	856.256.4234
Financial Aid	856.256.4250
Information Resources & Technology	856.256.4401
Main Switchboard	856.256.4000
Office of Career Advancement (OCA)	856.256.4456
Multicultural & Inclusion Programs (SJICR)	856.256.4448
Office of Social Justice, Inclusion and Conflict Resolution	856.256.5495
Office of Student Life & Leadership Programs	856.256.4283
Owl's Nest	856.256.4932
President	856.256.4100
Provost	856.256.4108
Public Safety (emergency)	856.256.4911
Public Safety (non-emergency)	856.256.4922
Recreation Center (Main Office)	856.256.4900
Registrar	856.256.4350
Residential Learning & University Housing	856.256.4266
Rowan Global Student Services	856.256.5435
School of Health Professions	856.256.5813
Student Activities	856.256.4696
Student Center	856.256.4601
SVP Finance & CFO	856.256.4125
Testing Center	856.256.4461
Tutoring Center	856.256.4460
Veterans Affairs	856.256.4233
Volunteerism, Community Engagement & Commuter Services	856.256.4595
VP University Advancement	856.256.4095
VP University Relations	856.256.4240
Wellness Center **Main Number** (formerly Student Health Center)	856.256.4333
Wellness Center (formerly Counseling and Psychological Service Center)	856.256.4333

Directions to Campus

Directions to Campuses

For GPS, use the street address for each of our campuses as indicated below

Main Campus - Glassboro
201 Mullica Hill Road, Glassboro, NJ 08028

Cooper Medical School of Rowan University (CMSRU)
401 South Broadway, Camden, NJ 08103

Rowan University @ Camden - Bank Building
129 North Broadway, Camden, NJ 08102

Rowan University School of Osteopathic Medicine (SOM)
One Medical Center Drive, Stratford, NJ 08084

West Campus - Tech Park
107 Gilbreth Parkway, Mullica Hill, NJ 08062

The Emeriti

Adams, Ethel M. (1968-1984) Professor
Psychology
B.A., Eastern Michigan University; M.A., University of Michigan; Ed.D., University of Pennsylvania

Addison, Carolyn (1967-1991) Professor
Health and Physical Education
B.S., James Madison University; M.A. New York University; Ed.D., Temple University

Alvino, Esther (1966-1987) Assistant Professor
Elementary Education
B.A., M.A., Glassboro State College

Ambacher, Jr., Richard J. (1967-2000) Professor
Communication Studies
B.A., Glassboro State College; M.F.A., Yale University

Amer, Khaled 1983-2014 Assistant Professor
Mathematics
B.S., Cairo Univ.; M.S C., Concordia Univ.; M.S., Ph.D., University of Waterloo

Amme, Linda (1968-1990) Assistant Professor
Special Education Services and Instuction
B.A., M.A., Glassboro State College

Andersen, Donald (1970-1998) Assistant Professor
Special Education Services and Instruction
B.A., M.Ed., Rutgers University

Applebaum, David 1973-2011 Professor
Department of History
B.A., Brooklyn College; M.A., Ph.D., University of Wisconsin-Madison

Avril, Edwin (1959-1982) Professor
Music
B.A., San Francisco State College; M.A., Ed.D., Teachers College, Columbia University

Bao, Da-Hsien 1995-2015 Professor
Department of Accounting and Finance
B.S., Fu Jen Catholic University, M.B.A., PhD University of Southern California

Bartelt, Pearl W. (1972-1999) Professor
Sociology and Dean
B.S., M.A., Ph.D., Ohio State University

Behm, Edward 1971-2002 Assistant Professor
Department of Geography and Environment
B.A., M.A., Bowling Green State University

Bender, Aaron (1964-1991) Professor
Department of History
B.A., Brooklyn College; M.A., Ph.D., New York University

Benevento, Jacqueline D. (1993-2010) Assistant Professor
Department of Teacher Education
B.A., Montclair State; M.A., Middlebury College; Ed.D., Temple University

Berhe Habte-Georgis 1988-2013 Professor
Department of Marketing and Business Information Systems
B.B.A., Haile Selassie University; M.S., Loyola University; D.B.A., Louisiana Tech University

Beverly, Leah (1958-1984) Professor
Health and Physical Education
B.S., Southwestern Louisiana College; M.A., N.Y.U.; Ed.D., University of So. Mississippi

Bianchi, John (1967-1990) Coordinator of Research
Education
B.S., Villanova Univ.; M.Ed., Rutgers Univ.; Ed.D., Temple University

Bisazza, Gaetano R. (1966-2000) Assistant Professor
Biological Sciences
B.S., LaSalle College; M.S. Villanova University

Blough, Robert (1963-1995) Professor
Elementary Education
B.S., Juniata College; M.Ed., Temple University; Ed.D., University of Pennsylvania

Bolay, Brenda (1968-1997) Associate Professor
Health and Exercise Science
B.A., University of Michigan; M.Ed., State University of New York, Buffalo; Ph.D., University of Maryland

Borgen, Evelyn (1965-1991) Professor
Elementary and Early Childhood Education
B.S., Monmouth College; M.A., Glassboro State College; Ed.D., Fairleigh Dickinson Univ.

Borowec, Alexander (1956-1988) Professor
Physical Sciences
B.S., Trenton State College; M.S., University of Pennsylvania; Ed.D., Temple University

Brent, George (1971-2003) Professor
Elementary/Early Childhood Education
B.A., Ed.M., Boston University; Ed.D., University of Massachusetts

Breslin, Frederick (1960-1991) Professor
Psychology
B.A., Queens College; M.A., Ph.D., New York University

Brinker, Beula (1960-1984) Assistant Professor
Elementary Education
B.S., Glassboro State College; M.A., New York University

Brooks, Ellain (1965-1983) Assistant Professor
Math and Computer Science
B.S., North Carolina State; M.A., Columbia University

Brown, Estelle (1962-1992) Professor
Reading and Speech Correction
B.S., M.A., Glassboro State College; Ed.D., Temple University

Bruce E. Caswell 1989 Associate Professor
Department of Political Science and Economics
B.A., University of Chicago; M.C.P., University of Pennsylvania; Ph.D., Rutgers University

Butcher, Ronald (1991-2009) Executive Director
Education Institute
B.S., Western Michigan University; M.A., Eastern Michigan University; Ph.D., University of Michigan

Buzash, Gabriel (1964-1981) Professor
Elementary Education
B.S., Slipper Rock State College; M.S., Westminster College; Ed.D. Penn State University

Byrer, Josep (1968-1995) Assistant Professor
Technology
B.S., M.S., Indiana State University

Cahill, Janet (1979-2013) Professor
Psychology
B.S., State University of New York at Oneonta; Ph.D., Temple University

Caldwell, Janet (1983-2016) Professor
Department of Mathematics
B.A., Rice University; M.A., University of Pennsylvania; Ph.D., University of Pennsylvania

Calliari, Carl (1968-2004) — Professor
Education
B.A., M.A., Glassboro State College; Ed.D., Temple University

Cammarota, Marie (1988-2008) — Associate Professor
Special Education Services/Instruction
B.A., M.A., Glassboro State College; Ed.D., Nova Southeastern University

Capasso, Ronald (1996-2002) — Associate Professor
B.A., M.A., Montclair State College; Ed.D., Columbia University

Cell, Howard R. (1967-2000) — Professor
Philosophy and Religion
B.S., University of Wisconsin; M.A., San Jose University; Ph.D., Temple University

Chang, Julia 1996 — Associate Professor
Department of Writing Arts
B.A., Stonehill College; M.S.J., Columbia University; M.A., Temple University

Chard, Daniel 1968-2016 — Professor
Department of Art
B.F.A., Univ. of South Dakota; M.A., Northern State College; Ed.D., Columbia University

Chaskes, Jay 1969 — Professor
Department of Sociology and Anthropology
B.A., University of Toledo; M.A., Ph.D., Temple University

Cimprich, Jack R. (1973-1998) — Associate Professor
Computer Science
B.A., Boston College; M.S., University of Pennsylvania

Cinaglia, Marianne B. (1994-2007) — Assistant Professor
Secondary Education
B.S., Drexel University; M.A., Ph.D., University of Delaware

Clapp, Robert A. (1969-2000) — Assistant Professor
Theatre and Dance
B.A., Pennsylvania State University; M.A., Syracuse University

Clark, Carol (1977-2010) — Librarian
Library
B.A., Regis College; M.S.L.S., Syracuse University; M.Ed., University of Lowell

Cohen, Stanley (1961-1984) — Professor
Educational Administration
B.S., Rutgers University; M.Ed., Ed.D., Temple University

Collins, John (1963-1994) — Professor
Communications
B.S., West Chester State College; M.A., Penn State University; Ed.D., Temple University

Collins, John J. (1969-1999) — Professor
Educational Leadership
B.A., M.A., Glassboro State College; J.D., Rutgers University

Combs, Ethel (1967-1995) — Associate Professor
Reading and Speech Correction
B.A., Douglass College; M.A., Glassboro State College; Ph.D., Temple University

Cone, Stephen L. (1999-2017) — Professor
Department of Health and Exercise Science
B.A., Jacksonville University; M.A., Appalachian State University; Ph.D., Texas A & M University

Cone, Theresa Purcell (2007-2017) — Associate Professor
Department of Health and Exercise Science
B.S., The College of New Jersey; M.Ed., Ph.D., Temple University

Conrad, George (1958-1979) Professor
Art
B.S., New York University; M.A., Ed.D., Columbia University

Covi, Adelyne (1964-1984) Assistant Professor
Elementary Education
B.S., Washington University; M.A., Glassboro State College

Craver, Rhys (1963-1994) Associate Professor
Chemistry and Physics
B.S., Millersville State College; M.S., University of Delaware; Ph.D., Walden University

Creamer, Marvin C. (1948-1977) Professor
Department of Geography and Environment
B.S., L.H.D., Glassboro State College; M.S., University of Pennsylvania; M.S., University of Wisconsin

Crichlow, Joel 2001-2014 Associate Professor
Computer Science
B.A., University of Guyana; M.Sc., Ph.D. University of the West Indies

Cuddy, Claudia 1998-2015 Assistant Professor
Department of Journalism
B.A., M.A., M.A., Glassboro State College

Darrah, Gladys L. (1967-1979) Assistant Professor
Health and Physical Education
B.S., M.S., University of Wisconsin

Dear, Edward C. (1969-2000) Associate Professor
Health and Exercise Science
B.S., Temple University; M.A., East Stroudsburg State College; D.A., Middle Tennessee State University

Delaney, Lawrence (1964-1988) Professor
Physical Sciences
B.S., Trenton State College; M.S., Ed.D., University of Pennsylvania

Detrick, Fred (1964-1987) Associate Professor
Foundations of Education
B.A., M.S., Rutgers University

DiObilda, Nicholas 1972-2012 Professor
Reading
B.S., West Chester University; M.Ed., Univ. of Delaware; Ph.D., Ohio State University

Dinsmore, Lee (1971-2002) Professor
Chemistry and Physics
B.S., M.A., Glassboro State College

Donaghay, Robert (1963-1992) Assistant Professor and Coordinator
Academic Advising
B.S., University of Minnesota; Ph.D., University of Texas

Donahue, Charles T. (1960-2000) Professor
Department of English
B.A., Texas A & M University; M.A., University of Texas; Ph.D., Temple University

Donald Stoll 1992-2011 Associate Professor
Department of Writing Arts
P.A. Valpariso Univ.; M.F.A., U of Texas at Austin, Ph.D. Indiania University.

Doskow, Minna (1986-2002) Professor
English and Dean
B.S., M.S., City College of N.Y.; M.A., University of Connecticut; Ph.D., University of Maryland

Douglas, Herbert (1980-2002) Professor
Department of Law & Justice Studies
B.S., Duquesne; M.S., Glassboro State College; Ph.D., University of Toledo

Duff, Elizabeth R. (1959-1984) Professor
Psychology
B.S., Kent State Univ.; M.A., New York Univ.; Ed.D., University of Maryland

Dugan, Ruth (1964-1981) Professor
Psychology
B.A., Washington Square College; M.A., Ph.D., New York University

Elliott, Gene V. (1963-1998) Professor
Psychology
B.S., M.A., Michigan State University; Ph.D., University of Maryland

Emerson, Robert (1966-1992) Assistant Professor and Assistant Director
Professional Lab Exper.
B.R.E., United Wesleyan College; M.A., Glassboro State College

Engebretson, Herschel (1969-1988) Assistant Professor
Communications
B.A., Taylor University; M.A., University of Pennsylvania

Enslin, William L. (1974-2000) Associate Professor
Management and Entrepreneurship
B.E., University of Pennsylvania; Ed.D., Rutgers University

Fanslau, Martha C. (1971-1980) Librarian and Instructor
Library
B.A., University of Pennsylvania; M.A., Glassboro State College

Farnelli, Donald 1968-2016 Professor
Department of Physics and Astronomy
B.S., Glassboro State College; M.Ed., Temple University; Ph.D., Union Graduate School

Foster, Bruce (1970-2005) Professor
Reading
B.A., Trenton State College; M.S.Ed., Bucknell Univ.; Ed.D., Florida State University

Frankl, Razelle (1983-2000) Professor
Management and Entrepreneurship
B.A., Temple University; M.B.A., Drexel University; M.A., Ph.D., Bryn Mawr College

Friebis, George (1969-1993) Director
Educational Media
B.S., M.Ed., Temple University; M.A., Glassboro State College; Ed.D., Nova University

Frisone, John (1973-2002) Associate Professor
Psychology
B.A., Queens College; Ph.D., City University of New York

Fulginiti, Anthony (1976-2009) Professor
Public Relations and Advertising
B.A., Laurel Hill College; M.A., Villanova University; M.A., Glassboro State College; APR Fellow PRSA

Gaer, Eleanor (1972-2014) Associate Professor
Psychology
B.S., University of Wisconsin at Milwaukee; M.S., University of Wisconsin at Madison; Ph.D., University of Illinois; J.D., Rutgers-Camden

Gallinelli, John (1969-2009) Professor
Art
B.Ed., Keene State College; Ph.D., University of Maryland

Gardiner, Dickinson (1967-1991) Professor
Secondary Education and Educational Foundations
B.A., Western Maryland College; M.Ed., Ed.D., Temple University

Garrabrant, William (1973-2003) Head of Circulation
Interlibrary Loan and Science Librarian
B.A., Hamilton College; M.S.Ed.,M.S.L.S., Syracuse University

Garrahan, John (1965-1982) Associate Professor
Special Education
B.A., City College of New York; M.S., Ed.D., University of Pennsylvania

Gates, Rodney E. (1968-2000) Assistant Professor
Art
B.S., Univ. of Maryland; M.A., Glassboro State College

Gaynor, William (1965-1987) Assistant Professor and Librarian
Library
B.A., Georgetown University; M.A., Fairfield University; M.S., Villanova University

Gillespie, John (1972-1992) Associate Professor
Communications
B.S., M.A., Glassboro State College

Glassberg, Rose (1964-1991) Professor
Secondary Education and Educational Foundations
B.S., West Chester State College; M.A., Middlebury College; Ph.D., Temple University

Goldberg, Leon (1968-1988) Associate Professor
Physical Science
B.S., City College of New York; M.S., New York University

Goodfellow, Frank (1965-1999) Associate Professor
Secondary Education
B.A., College of Wooster; M.S.L.S., Drexel Institute of Technology

Grace, James H. (1969-2000) Professor
Philosophy and Religion
B.A., M.Th., Drew University; M.A., Ph.D., Temple University

Graneto, Philllip (1970-2011) Professor
Theatre and Dance
B.A Catholic University; MFA Carnegie Mellon

Granite, Bonita (-2017)
Department of Music

Green, Charles H. (1962-1993) Professor
Life Sciences
B.S., Penn State University; M.S., University of Delaware; Ph.D., Purdue University

Greenspan, Bertram 1961-2012 Professor
Music
B.M., American Conservatory of Music; M.M., D.M., Indiana University

Grupenhoff, Richard (1981-2009) Professor
Radio, Television, and Film
B.A., Xavier University; M.A., Purdue University; Ph.D., Ohio State University

Guerard, Michael P. (1971-1995) Associate Professor
Technology
B.S., M.Ed., Ph.D., Texas A & M University

Gundaker, Isabelle (1983-2003) Instructor
Composition and Rhetoric
B.A., Chestnut Hill College; M.A., Rutgers

Gurst, Lawrence (1966-1993) Assistant Professor
Elementary Education
MA.A., M.Ed., Temple University

Haba, James (1972-2003) Associate Professor
Department of English
B.A., Reed College; Ph.D., Cornell University

Hamlet, Carolyn (1984-2012) Assistant Professor
Special Education Services and Instruction
B.S., University of Tennessee; M.Ed., Memphis State University; Ph.D., Temple University

Hartley, Stephen (2000-2015) Associate Professor
Computer Science
B.A., Washington College, M.S., Ph.D. University of Virginia

Haynes, Robert (1960-1991) Professor
Art
B.F.A., Colorado State College; M.A., Ed.D., Columbia University

Healy, Bartholomew (1985-2013) Professor
Theatre and Dance
B.A. College of the Holy Cross; M.F.A New York University

Hewsen, Robert H. (1967-1999) Professor
Department of History
B.A., University of Maryland; M.S., Catholic University; Ph.D., Georgetown University

Hitchner, Benjamin G. (1964-1998) Assistant Professor
Department of Political Science and Economics
B.S., Temple University; M.S., University of Pennsylvania

Howe, Clarence (Larry) 1970-2014 Assistant Professor
Mathematics
B.A., University of Delaware; ABD University of Delaware

Humbert, John J. (1969-1995) Professor
Technology
B.S., University of Maryland; M.Ed., Pennsylvania State University; Ed.D. Texas A&M University

Husain, Syed (1960-1994) Professor
Biological Sciences
I.Sc., City Science College, Hyderabad; B.Sc., College of Agriculture, Osmania University,Hyderabad, India; M.S., Oklahoma State University; Ph.D., Cornell University

Itzkowitz, Gary (1972-2016) Professor
Department of Mathematics
B.S., City College of New York; M.A., Ph.D., University of California.

Itzkowitz, Martin 1989-2016 Associate Professor
Department of Writing Arts
B.A., Brooklyn College; M.A., Ph.D., New York University

Jaeger, Peter (1966-1981) Associate Professor
Communications
B.A., Mexico City College; M.Ed., University of Houston

Jam, Habib O. E. (1979-2013) Associate Professor
Department of Political Science and Economics
B.A. 1965 Texas Tech. University Economics;M.A. 1967 Texas Tech. University, Economics;Ph.D. 1975 Southern Illinois University, Economics

Janice Rowan 1976-2011 Professor
Department of Writing Arts
P.A Rutgers Univ. M.A. University of Michigan

Jeffrey, Linda (1973-2002) Professor
Psychology
B.A., University of Nebraska; M.A., Teacher's College Columbia University; M.A., University of Chicago; Ph.D., Rutgers University

Jensen, Ivar I. (1959-1981) Professor
Foundations of Education
B.Ed., Univ. of Connecticut; M.A., Middlebury College; Ed.D., Columbia University

Johnson, Richard J. (1971-2000) — Associate Professor
Department of Political Science and Economics
B.A., M.A., Cert. of Russian Institute; Ph.D., Columbia University

Johnson, Theodore B. (1990-1999) — Associate Professor
Educational Leadership
B.S., M.A., Temple University; Ed.D., Rutgers University

Johnson, Christine (1989-2002) — Professor
B.A., M.A., University of Wisconsin; Ed.D., Rutgers University

Jorgensen, Donna W. (2000-2014) — Associate Dean
Education
B.S., West Chester State College; M.A., Villanova University; Ed.D., Widener University

Kaleta, Kenneth 1989-2016 — Professor
Department of Radio, Television and Film
B.A., M.A., Villanova University; Ph.D., New York University

Kapel, David (1988-2002) — Professor
Secondary Education and Foundations
B.S., M.Ed., Ed.D., Temple University

Kardas, William (1968-2000) — Head Reference Librarian
Library
B.S., M.L.S., Villanova University

Keller, Horace (1960-1986) — Professor
Psychology
B.S., West Chester University; M.Ed., Ed.D., Temple University

Kelly, Michael F. (1961-1998) — Professor
Theatre and Dance
B.A., Elmhurst College; M.A., Ph.D., State University of Iowa

Kershner, E. Theodore (1968-1998) — Assistant Professor
Health and Exercise Science
B.S., Ursinus College, M.Ed., Temple University

Kirner, Clara (1971-1994) — Librarian
Library
B.A., Rutgers University; M.A., Drexel University

Klanderman, John (1986-2005) — Professor
Special Education
B.A., Calvin College; M.A., Ph.D., Michigan State University

Kress, Lee 1973-2011 — Associate Professor
Department of History
B.A., Johns Hopkins University; M.A., Ph.D., Columbia University

Kushner, William (1970-1999) — Professor
Communication Studies
B.A., Montclair State College; M.A., Temple University; Ph.D., Indiana University

Leder, George (1972-2000) — Assistant Professor
B.S., Brooklyn College; Ph.D., Rutgers University

Lee, Elaine (1967-1994) — Associate Professor
Elementary/Early Childhood Education
B.S., M.A., Trenton State College; Ed.D., Temple University

Lemaire, Denyse 1998-2014 — Professor
Department of Geography and Environment
M.A., Ph.D., Universite Libre de Bruxelles

Leshay, Steven V. (1978-1999) — Associate Professor
Marketing
B.A., Lenoir Rhyne College; M.A., Glassboro State College; Ph.D., Temple University

Levinowitz, Lili (1989-2017) Professor
Department of Science, Technology, Engineering, Art and Mathematics (STEAM)
B.M., Westminister Choir College; M.M., Ph.D., Temple University

Libro, Antoinette (1968-2002) Dean and Professor
Communication
B.A., Glassboro State College; Ph.D., New York University

Lint, Jerry N. (1964-1998) Assistant Professor
Department of Geography and Environment
B.S., Clarion State College; M.Ed., Pennsylvania State University

Lisa, Anthony (1978-2000) Athletics Assistant Director
Athletics Department
B.A., M.S., Glassboro State College

Loigman, Barry M. (1970-1999) Associate Professor
Psychology
B.A., M.A.,Temple University; Ph.D., Rutgers University

Longacre, David (1961-1989) Assistant Registrar
Education
B.A., Gettysburg College; M.S., University of Pennsylvania

Lynch, Robert D. (1973-1999) Professor
Management and Entrepreneurship
B.S., M.S., Ph.D., Carnegie-Mellon University; SPHR

Markowitz, Diane 1993-2011 Associate Professor
Department of Sociology and Anthropology
B.A., Tufts University; D.M.D., Tufts University School of Dental Medicine; Ph.D., University of Pennsylvania

Martin, Doris (1976-1987) Assistant Professor
Home Economics
B.S., Penn State University; M.S., Cornell University; Ed.D., Temple University

Martin, Marilyn (1995-2004) Dean
Library Services
B.A., M.L.S., University of Washington; M.A., University of Arkansas; Ph.D., Texas Woman's University

Martínez-Yanes, Francisco (1966-2008) Professor
Department of Foreign Languages and Literatures
M.A., University of Rome, Italy; Diplôme, Alliance Française, Paris, France; Ph.D., University of Pennsylvania

McConnell, Helen (1965-1995) Professor
Home Economics
B.S., State University College, Oneconta, NY; M.A., Columbia University; Ph.D., Michigan State University

McCrann, Virginia E. (1968-1985) Assistant Professor
Home Economics
B.A., M.Ed., Rutgers University

McHenry, Sandra L. 1993-2000 Associate Professor
R.N., Helene Fuld School of Nursing; B.A., Rowan College of NJ; M.S., University of Delaware; D.N.Sc., Widener University

McKenzie, James J. (1954-1980) Professor
Department of English
B.A., Canisius College; M.A., Ph.D., Harvard University

McLean, Desmond (1966-2002) Associate Professor
Art
B.A., Newark State College; M.A., Hunter College

McMeniman, Linda 1986-2000 Associate Professor
B.A., New York University; M.A., Ph.D., University of Berkeley

Meagher, Richard (1969 -2008) Professor
Biological Sciences
B.S., M.S., Fairleigh Dickinson University; Ph.D., St. Bonaventure University

Mercier, J. Denis (1967-2002) Professor
Communication
B.A., Marian College; M.A., Niagara University; Ph.D., University of Pennsylvania

Meyers, Dorothy (1967-1985) Assistant Professor and Librarian
Library
B.A., State University of Iowa; M.L.S., Rutgers University

Mical, Agnes (1968-1996) Assistant Professor
Health and Exercise Science
B.S., M.S., West Chester University

Michaelson, James (1967-1991) Assistant Professor
Secondary Education and Education Foundations
B.S., M.A., Temple University

Micklus, Samuel C. (1968-1991) Professor
Technology
B.S., Philadelphia College of Art; M.A., Trenton State College; Ed.D., New York University

Miller, Allen 1976-2000 Chief Engineer, WGLS, College of Communication
College of Communication
B.S., M.S., SUNY-Oswego

Mitchell, Robert D. (1965-1997) Associate Professor
Mathematics
B.S., M.A., University of Texas

Monahan, Thomas (1984-2009) Professor
Educational Leadership
B.A., LeMoyne College; Ed.M., Ed.D., Rutgers University

Monroe, Gerald (1968-1986) Associate Professor
Art
B.S., M.A., Ed.D., New York University

Moore, Elizabeth (1972-2002) Professor
Biological Sciences
B.Sc., Rollins College; M.S., Ph.D., Cornell University

Moore, Oscar (1971-2003) Assistant Professor
Health and Exercise Science
B.S., M.S., Southern Illinois University

Moore, Edward 2007-2017 Professor
Department of Public Relations and Advertising
B.A., M.A., Glassboro State College (Rowan University); APR

Morford, Ida B (1956-1981) Professor
Psychology
B.S., Geneseo State College; M.A., Ph.D., Ohio State University

Moss, Janet Associate Professor
Education
B.S.,Northwestern University; Ed.M. Harvard University; Ed.D., University of California at Los Angeles

Mosto, Patricia (1993-2009) Professor
Biological Sciences
National Teacher Certification, Teachers College N6; Licenciada in Biology (M.S.), University of Buenos Aires; M.A. equivalent, University of Texas at Austin; M.S., Drexel University; Ph.D., University of Buenos Aires

Moyer, Mel (1967-2000) Associate Professor
Psychology
B.A., Glassboro State College; M.Ed., Temple University; Ed.D., Rutgers University

Murashima, Kumiko (1971-2007) Associate Professor
Art
B.F.A., Women's College of Fine Arts, Japan; M.F.A., Indiana University

Myers, John (1973-2011) — Professor
Department of Sociology
B.S., Drexel University; M.A., Ph.D., Fordham University

Neff, George (1962-2000) — Professor
Art
B.S., Kutztown University; M.A., Columbia University; Ed.D., Pennsylvania State University

Newland, Robert 1983-2012 — Professor Emerti
Department of Chemistry & Biochemistry
B.A., Kalamazoo College; Ph.D., Wayne State University

Nichols, Lola (1960-1986) — Assistant Professor
Elementary Education
B.S., Trenton State College; M.A., Columbia University; M.A., Glassboro State College

Ognibene, Gerald (1972-2008) — Professor
Special Education
B.A., Niagara University; M.S., Canisius College; Ph.D., Ohio State University

Okorodudu, Corann (1968-2011) — Professor
Psychology
B.A., Cuttington College, Liberia,; M.Ed., Ph.D., Harvard University

Oliver, Harold 1979-2011 — Professor
Music
B.M., Peabody Conservatory; M.M., Yale Univ.; Ph.D., Princeton University

Orlando, Frank J. (1972-2008) — Associate Professor
Foundations of Education
B.S., M.S., SUNY-Buffalo; Ed.D., West Virginia University

Pagell, Francesca Louise (1998-2012) — Assistant Professor
Department of Health and Exercise Science
B.A., M.Ed., Ed.D., Temple University

Palladino, Mary Anne (1964-1994) — Professor
Communications
B.A., Immaculata College; M.A., Villanova University

Pastin, John R. (1998-2017) — Professor
Department of Music
B.S., University of the State of New York; M.M., Northwestern University

Perry, Wilhelmina E. (1968-1997) — Professor
Sociology
B.A., Tilotson College; M.A., Howard University; Ph.D., University of Texas

Pickett, Ethel (1968-1987) — Assistant Professor
Home Economics
B.S., University of Delaware; M.Ed., University of Maryland

Pike, Frank (1964-1987) — Assistant Professor
Department of English
B.A., Suffolk University; M.A., Boston College; M.Ed., State College at Boston

Pittard, Norma (1968-1987) — Assistant Professor
Art
B.A., Adelphi University; M.A., Columbia University; Ph.D., University of Maryland

Porterfield, Richard (1961-1998) — Associate Professor
Department of History
B.A., Johns Hopkins University; M.A., University of Pennsylvania; Ph.D., Temple University

Prieto, Andrew (1971-2008) — Professor
Biological Sciences
B.A., Rutgers University; M.S., New Mexico State University; Ph.D., University of Missouri

Pritchard, Robert 1971-2011 Professor
Department of Accounting and Finance
B.S., M.B.A., Drexel University, M.A., Ed.D., University of Pennsylvani

Pujals, Enrique J. (1969-2000) Professor
Department of Foreign Languages and Literatures
B.A., M.A., Indiana State University; Ph.D., Rutgers University

Putman, Mary Lee 1971-2011 Associate Professor
Department of Health and Exercise Science
B.S., SUNY College at Cortland; M.A., University of Maryland; Ph.D., Temple University

Rashiduzzaman, Mohammad (1973-2013) Associate Professor
Department of Political Science and Economics
M.A. and B.A. (Hons) University of Dhaka, (Bangladesh);Post-doctoral (senior)fellowship, Columbia University, New York ; Ph.D, University of Durham, England

Reeves, Edwin C. (1968-1996) Assistant Professor
Reading
B.A., M.A., Glassboro State College

Resnik, Benjamin (1965-1991) Assistant Professor
Communications
B.A., M.A., Glassboro State College

Richard Parker 1990-2013 Professor
Department of Marketing and Business Information Systems
B.A., Queens College; M.B.A., Rutgers University; Ph.D., City University of New York

Richardson, Herbert A. (1966-1998) Assistant Professor
Department of History
B.M., M.M., Yale University; M.A., Ph.D., University of Pennsylvania.

Robinette, Joseph (1981-2005) Professor
Theatre and Dance
B.A., Carson-Newman College; M.A., Ph.D., Southern Illinois University

Robinson, Randall 1965-2000 Associate Professor
B.S., Ohio State University; M.S., University of Pennsylvania; Ed.D., Temple University

Rosenberg, Jerome J. (1973-2008) Associate Professor
Special Education
B.A., Oswego State Teachers College; M.A., Columbia University; Ed.D., Temple University; Ph.D., Heed University, West

Rowand, Edith T. (1966-2000) Assistant Professor
Health and Exercise Science
B.S., The King's College; M.S., West Chester State College

Sakiey, Elizabeth (1974-2000) Professor
Reading
B.S., Eastern Michigan University; M.Ed., Ed.D., Rutgers University

Schreiber, Elliott (1967-1995) Associate Professor
Psychology
B.A., Upsala College; M.A., Bradley University; Ed.D., West Virginia University

Schultz, Charles 1972-2000 Professor
B.S., University of Michigan; M.S., Ohio State University; Ph.D., University of Michigan

Schwarz, Charles (1967-1999) Assistant Professor
Mathematics
B.A., St. John's University; M.S., Fordham University; M.S., Adelphi University; Ed.D., Rutgers University

Scott, Joanne (1989-2009) Associate Professor
Biological Sciences
B.S., M.S., Bucknell University; M.A., Lehigh University; Ph.D., University of Texas, Medical Branch at Galveston

Scott, Richard 1972 — Professor
Department of Geography and Environment
B.A., University of Cincinnati; M.A., Ph.D., Syracuse University

Serfustini, Leonard 1971-1986 — Professor
Department of Health and Physical Education
B.Ed., M.Ed., University of Buffalo; Ed.D., State University of New York

Shawver, Murl C. (1958-1974) — Professor
Life Sciences
B.S., Central Missouri State College; M.Ed., University of Missouri; Ed.D., Columbia University

Shontz, Marilyn L. (1999-2009) — Associate Professor
Special Education Services and Instruction
A.B., Heidelberg College (Ohio); M.S. in L.S., Case Western Reserve University; Ph.D., Florida State University

Shrader, Edith (1959-1968) — Demonstration Teacher
Early Childhood Education
B.S., M.S., Glassboro State College

Simpson, Eugene (1975-2000) — Professor
Music
B.M., Howard University; B.M., M.M., Yale University; Ed.D., Columbia University

Sizemore, Warner (1966-1987) — Assistant Professor
Philiosophy and Religion
B.A., East Tennessee State; M.A., Bob Jones University; M.A., Temple University; B.D., Lincoln University Theological Seminary

Smith, Steward (1968-1983) — Assistant Professor
Elementary Education
B.A., Rutgers University; M.Ed., Temple University

Sorrentino, Carmela 1965-2009 — Assistant Professor
Teacher Education (Early Childhood, Elementary Education, Subject Matter)
B.S., West Chester State College; M.Ed., Temple University

Spear, Miriam (1967-1983) — Assistant Professor
Secondary Education
B.A., M.S., Glassboro State College

Spencer, Sonia B. (1990-2016) — Associate Professor
Department of Foreign Languages and Literatures
B.A., Hunter College; M.A., Pennsylvania State University; Ph.D., Duke University

Stansfield, Charles 1966-2007 — Professor
Department of Geography and Environment
B.S., West Chester University; M.S., Pennsylvania State University; Ph.D., University of Pittsburgh

Stevens, Kathleen (1972-1998) — Associate Professor
Communication
B.A., Georgian Court College; M.A., Glassboro State College (Rowan)

Stone, Don C. (1968-2000) — Associate Professor
Computer Science
E. Eng. Phys., Cornell University; M.S.E., Ph.D., University of Pennsylvania

Strauss, Lois (1973-2014) — Professor
Psychology
B.S.Ed., M.Ed., Ed.D., Temple University

Streb, Edward (1979-2017) — Professor
Department of Communication Studies
B.S., M.A., Ph.D., Northwestern University

Sullivan, Jane E. (1972-1999) — Professor
Reading
B.S., Seton Hall University; M.S., Ed.D., State University of New York, Albany

Taney, Mary C. (1967-1991) Professor
Department of History
B.A., College of Saint Teresa; M.A., Ph.D., Catholic University; Litt.D., Universita Cattolica del Sacro Cuore, Milan, Italy

Tannenbaum, Margaret D. (1971-2000) Professor
Secondary Education
B.A., Bryan College; M.Ed., Ed.D., Temple University

Tannenbaum, Theodore (1973-1998) Professor
Sociology
B.A., M.A., Brooklyn College; Ph.D., Purdue University

Taylor, Albert (1964-1987) Professor
Foundations of Education
B.S., Trenton State College; M.Ed., Ed.D., Rutgers University

Tener, Morton (1968-2008) Professor
Secondary Education
B.S., Rider College; M.S., University of Pennsylvania; M.S., Ed.D., Temple University

Thomas J. Gallia 1970-2013 Vice President Emeritus/Senior Advisor to the President
Secondary Education
B.A., M.A., M.A., Glassboro State College; Ed.D., Rutgers University

Thyhsen, John (1969-2000) Professor
Music
B.M., M.M., Eastman School of Music

Tishler, Joseph (1964-2000) Professor
Art
Cresson Scholar, Pennsylvania Academy of Fine Arts; B.F.A., M.F.A., University of Pennsylvania; D.A., Carnegie-Mellon University

Tomei, Mario (1964-1995) Professor
Educational Administration
B.A., Montclair State College; M.S., University of Pennsylvania; Ed.D., Temple University

Tracey, James H. (1994-2000) Dean/Professor
College of Engineering
B.S.E.E., M.S., Ph.D., Iowa State University

Travis, William (1971-2007) Professor
Art
B.F.A., Philadelphia College of Art; M.F.A., Tyler School of Art

Tsuji, Thomas (1969-1995) Professor
Technology
B.S., M.S., Stoudt State College; Ph.D., Michigan State University

Vivarelli, Thomas (1967-2004) Assistant Professor
Special Education
B.A., Trenton State College; M.A., Glassboro State College

Vogal, Hal (1984-2005) Professor
Public Relations and Advertising
B.A., Temple University; M.A., William Paterson College; Ph.D., Antioch University; APR

Wade, Thomas 1976-2009 Assistant Professor
Music
B.M., Oberlin College; M.M., University of Connecticut

Waring, Joseph C. (1966-1991) Associate Professor
Physical Sciences
B.A., State Univ. of New York at Binghamton; M.S., State Univ. of New York at Oneonta; Ph.D., University of South Carolina

Washington, Judy (1971-2009) Associate Professor
Teacher Education (Early Childhood, Elementary Education, Subject Matter)
B.A., Brooklyn College; M.Ed., Ed.D., Temple University

Wasserman, Burton (1960-2003) Professor
Art
B.A., Brooklyn College; M.A., Ed.D., Columbia University

Weatherford, Bernadyne (1987-2012) Associate Professor
Department of Political Science and Economics
B.A., M.A., Texas Tech University; Ph.D., University of New Mexico

Weiss, Leigh 1968-2011 Associate Professor
Computer Science
B.S., M.S., Buffalo State University

Welsh, Charles (1973-1992) Professor
Marketing
B.S., Villanova University; M.B.A., Ph.D., University of Pennsylvania

Westcott, Patrick (2003-2013) Associate Professor
Department of Teacher Education (Early Childhood, Elementary Education, Subject Matter)
B.A. University of Minnesota; M.A., University of Connecticut; M.A., Fairleigh Dickinson University; Ed.D., Teachers College Columiba University

Whitcraft, John (1963-1987) Professor
Philosophy and Religion
B.A., Asbury College; M.A., Temple University; B.D., Asbury Seminary; S.T.M., Boston University

White, Edward H. (1973-2000) Professor
Educational Leadership
B.A., Keene State College; M.S., Indiana State University; Ph.D., University of Maryland

Williams, Leonard J. (1990-2009) Associate Professor
Psychology
B.A., University of Delaware; M.A., McMaster University, Hamilton, Ont.; Ph.D., University of South Carolina

Winand, Lois (1971-1991) Assistant Professor
Home Economics
B.S., M.S., Drexel University; Ed.D., Pennsylvania State University

Wolfe, Edward (1959-1994) Professor
Department of English
B.A., M.A., Ph.D., University of Pennsylvania

Woods, Wellington (1967-1998) Associate Professor
Chemistry and Physics
B.S., Glassboro State College; M.Ed., Rutgers University; Ph.D., Walden University

Wriggins, Thomas (1967-1992) Assistant Professor and Director of Support Services
Education
B.A., Glassboro State College; M.Ed., Temple University

Young, Walter Byron (1972-1997) Professor
Art
B.A., M.A., Glassboro State College; Ed.D., Pennsylvania State University

Young, Flora D. 1968
Department of Sociology and Anthropology
B.A., M.A., Howard University, Ed.D. University of Pennsylvania

Zahn, Richard (1960-1987) Professor
Foundations of Education
B.S., West Chester State College; M.Ed., Ed.D., Temple University

Zalusky, Donald (1966-1991) Associate Professor
Physical Sciences
B.S., M.A., University of Missouri; Ph.D., University of Delaware

Zimmerman, Donald (1961-1992) Professor
Elementary and Early Childhood Education
B.S., M.A., State University of New York, Buffalo; Ed.D., Temple University

Zimolzak, Chester (1974-2007) Associate Professor
Department of Geography and Environment
B.A., Pennsylvania State University; M.A., University of Wisconsin

Accreditations

Accreditations

Middle States Commission on Higher Education
AACSB International - The Association to Advance Collegiate Schools of Business
ABET - Computing Accreditation Commission
ABET - Engineering Accreditation Commission
American Association of Colleges of Nursing - Commission on Collegiate Nursing Education
American Chemical Society
American Osteopathic Association - Commission on Osteopathic College Accreditation
American Osteopathic Association - Council on Osteopathic Postdoctoral Training Institutions
Certification in Education for Public Relations - Public Relations Society of America
Commission for Accreditation of Athletic Training Education
Council for Accreditation of Counseling and Related Educational Programs
Liaison Committee on Medical Education (*provisional*)
National Association of School Psychologists
National Association of Schools of Art and Design
National Association of Schools of Music
National Association of Schools of Theatre
National Council for Accreditation of Teacher Education
National Wellness Institute

Memberships

American Council on Education
American Association of State Colleges and Universities
American Association for Adult Continuing Education
American Association for Engineering Education
American Association of Colleges for Teacher Education
Association of American Colleges & Universities
Association of Governing Boards of Universities & Colleges
AACSB: The International Association for Management Education
BioNJ
Council of Graduate Schools
National Association of Schools
New Jersey College and University Coalition
New Jersey Council of Education
New Jersey Association of Colleges and Universities
Teacher Education Council of State Colleges and Universities
The College Board
Middle States Association of Colleges & Schools Inc.
New Jersey Association of Colleges for Teacher Education

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