

# ROWAN UNIVERSITY

Graduate Catalog 2004-2005

# CONTENTS

## **Introduction**

Welcome .....	3
Rowan University in Brief .....	3
Listing of Programs.....	4
History of Rowan University .....	5
<b>Division of Academic Affairs .....</b>	<b>9</b>
Office of the Provost .....	9
Campbell Library .....	9
<b>Rowan University at Camden .....</b>	<b>10</b>
<b>Information Resources .....</b>	<b>10</b>
<b>The Graduate School .....</b>	<b>11</b>
<b>Admission to The Graduate School .....</b>	<b>11</b>
<b>Academic Policies and Requirements .....</b>	<b>15</b>
<b>Financial Information .....</b>	<b>21</b>
<b>College of Business .....</b>	<b>25</b>
<b>College of Communication .....</b>	<b>29</b>
<b>College of Education .....</b>	<b>34</b>
<b>College of Engineering .....</b>	<b>68</b>
<b>College of Fine and Performing Arts .....</b>	<b>71</b>
<b>College of Liberal Arts and Sciences .....</b>	<b>74</b>
<b>Course Descriptions .....</b>	<b>78</b>
<b>Faculty .....</b>	<b>146</b>
<b>Directions to the University .....</b>	<b>165</b>
<b>Index .....</b>	<b>166</b>

# INTRODUCTION

## Welcome

Welcome to the Graduate School at Rowan University! The Graduate School offers stimulating and challenging graduate education experiences. Small classes, well-qualified professors, focused and dynamic courses characterize our varied graduate programs. The Graduate School provides scholarly opportunities to meet professional and personal desires for lifelong learning and career development and promotes an exceptional environment for achievement and fulfillment. Our programs emphasize the integration of theory and practice through classroom applications, field experiences, projects and theses, and culminating capstone experiences.

Rowan University offers degree programs at the graduate level leading to the Master of Arts, the Master of Business Administration, the Master of Science, Master of Music and the Master of Science in Teaching degrees. There is also an exciting doctoral program leading to the Doctor of Education (Ed.D) in Educational Leadership, and an Education Specialist degree (Ed.S) in School Psychologist Certification. New master's programs in writing, theatre and music, and educational technology expand our offerings and meet professional needs. There are also selected programs that can lead to certification by the New Jersey Department of Education and graduate certificate programs in specific areas of study. The University is accredited by the Middle States Association of Colleges and Secondary Schools. Eligible Master of Arts education programs and certification programs are fully credited by the National Council for the Accreditation of Colleges of Teacher Education (NCATE) and meet all National Association of State Directors of Teacher Education Certification (NASDTEC) standards.

We hope your educational experience at Rowan University will be positive and rewarding. This catalog provides information that will be useful for you as you plan and complete your program. If you need assistance or have questions, please do not hesitate to call your program advisor and/or The Graduate School. We are here to serve you.

## Rowan University in Brief

### Type

Comprehensive, coeducational, non-sectarian, state-supported, founded in 1923

### Colleges

Business, Communication, Education, Engineering, Fine and Performing Arts, Liberal Arts and Sciences, and The Graduate School

### Degrees

Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Science, Master of Arts, Master of Business Administration, Master of Music, Master of Science, Master of Science in Teaching, Educational Specialist, Doctor of Education

### Campuses

Glassboro, NJ—Main (approximately 20 miles southeast of Philadelphia, PA)

Camden, NJ—Branch

### Size

Approximately 7,040 full-time and 2,700 part-time students; approximately 570 full-time equivalent (FTE) faculty

**Average Costs (2003-2004)\***

**Full-Time**

In-State .....\$4,957/semester  
 Out of State .....\$7,507/semester

**Part-Time**

	Tuition & Fees (Master's level)	Tuition & Fees (Doctoral level)
In-State .....	\$450.30/credit	\$491.30/credit
Out of State .....	\$682.30/credit	\$748.30/credit

*\*subject to annual change*

**Administrative Offices Telephone Numbers**

Academic Affairs	256-4011
Academic Success	256-4259
Alumni Office	256-5400
Bursar	256-4150
Campbell Library	256-4800
Career & Academic Planning	256-4456
Dean, Business	256-4025
Dean, Communication	256-4340
Dean, Education	256-4750
Dean, Engineering	256-5300
Dean, Fine and Performing Arts	256-4550
Dean, Liberal Arts and Sciences	256-4850
Dean of Students	256-4040
Development Office	256-5410
Disability Resources	256-4234
Financial Aid	256-4250
Graduate Admissions	256-4050
Information Resources	256-4401
International/Multicultural	256-4238
Library	256-4800
Main Switchboard	256-4000
President	256-4100
Provost	256-4108
Public Safety	256-4922
Recreation Center	256-4900
Registrar	256-4350
Specialized Services	256-4233
Student Center	256-4601
Student Health Center	256-4333
University Relations	256-4240
VP Administration and Finance	256-4140

VP Student Affairs 256-4283  
 VP University Advancement 256-4095

**Graduate Programs**

**College of Business**

M.B.A., Master of Business Administration  
 M.S., Accounting (admission suspended)

**College of Communication**

M.A., Public Relations  
 M.A., Writing

**College of Education**

Ed.D., Educational Leadership  
 Ed.S., Educational Services: School Psychologist Certification  
 M.A., Educational Technology  
 M.A., Elementary School Teaching  
 M.A., Environmental Education and Conservation  
 M.A., Higher Education  
 M.A., Learning Disabilities  
 M.A., Reading Education  
 M.A., School Administration  
     Elementary and Secondary  
     School Business Administration  
 M.A., School and Public Librarianship  
 M.A., School Psychology  
 M.A., Special Education  
 M.A., Student Personnel Services  
 M.A., Subject Matter Teaching  
     Art (with College of Fine and Performing Arts)  
     Music Education (with College of Fine and Performing Arts)  
     Biological Sciences (with College of Liberal Arts and Sciences)  
     Physical Sciences (with College of Liberal Arts and Sciences)  
     Mathematics (with College of Liberal Arts and Sciences)  
 M.A., Supervision and Curriculum Development  
 M.S., Teaching  
     Collaborative Teaching  
     Elementary Education  
     Secondary Education  
     Special Education

## College of Engineering

M.S., Engineering

## College of Fine and Performing Arts

M.M., Music

M.A., Theatre

## College of Liberal Arts and Sciences

M.A., Mental Health Counseling and Applied  
Psychology

M.A., Mathematics

## Certificates of Graduate Study

Early Childhood Education

Foreign Language Education

Writing: Composition and Rhetoric

Computers in Education

Elementary School Mathematics

Elementary Language Arts

Theatre Practice

## Certificates of Advanced Graduate Study

Mental Health Counseling

## Certification Programs (leading to New Jersey certification)

Learning Disabilities Teacher/Consultant

Reading Specialist

Associate Educational Media Specialist

School Business Administration

Supervisor

ESL/Bilingual Education

Substance Awareness Coordinator

## 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 university with a strong regional reputation.

In the early 1900s, many New Jersey teachers lacked proper training because of a shortage of schools in the state that provided training. To counter the trend, the state decided to build a two-year training school for teachers, known then as a normal school, in Southern New Jersey.

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 South Jersey 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 residents and businesses of Glassboro raised more than \$7,000 to purchase 25 acres, which they offered to the state for free if it selected Glassboro as the site for the new college.

The land included the Whitney mansion 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.

In September 1923, Glassboro Normal School opened with 236 young women arriving by train to convene in the school's first building, now called Bunce Hall. Dr. Jerohn Savitz, the University'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. 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.

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

The University's fourth president, Dr. Mark Chamberlain, guided the college through its next phase of growth as enrollment doubled and the college became a multi-purpose institution in the 1970s. As new majors and a Business Administration Division were added, the college's four divisions grew into schools, a board of trustees was formed and a satellite campus was opened in Camden. With a 1978 Division III National Championship in baseball-the first of 11 national championships-the athletic program established itself as one of the premiere athletic programs in the country.

The fifth president, Dr. Herman James, assumed the leadership of the college in 1984. Under his direction, Rowan established the first doctorate program in the state's college/university system, added the College of Engineering and College of Communication and attained university status. Dr. James also was responsible for the construction of a new \$16.8-million library, an \$8.6-million student recreation center, and the \$30-million engineering school facility.

In July 1992, industrialist Henry Rowan and his wife, Betty, donated \$100 million to the institution, then the largest gift ever given to a public college or university in the history of higher education. Later that year, the school changed its name to Rowan College of New Jersey to recognize the Rowans' generosity.

To lead Rowan University into the 21st century, the Board of Trustees named Dr. Donald J. Farish as the sixth president in July 1998.

Today, Rowan University is divided into a Graduate School and six academic colleges: Business, Communication, Education, Engineering, Fine & Performing Arts and Liberal Arts & Sciences. Rowan's nearly 10,000 students can

select from among 36 undergraduate majors, seven teacher certification programs, 26 master's degree programs and a doctoral program in educational leadership. The tree-lined campus contains 42 buildings, including eight residence halls, four apartment complexes, a Student Recreation Center and 23 computer labs.

Rowan is in the midst of an aggressive 10-year plan that will give the university a national reputation for excellence and innovation and will make it the public university of choice in the region. The plan calls for the construction of new academic buildings and residence halls, renovation of most of the existing facilities, implementation of a comprehensive landscaping plan and purchase of nearly 600 acres in nearby Harrison and Mantua townships for the University's third campus. The anchor of the new campus, located two miles west of Glassboro, will be the South Jersey Technology Park at Rowan University-a project expected to play a significant role in the economic development of the region.

Throughout its history Rowan has earned a reputation as a high quality, moderately priced university. Its programs and achievements have caught the attention of national organizations that evaluate colleges and universities. US News & World Report ranked Rowan University in the "Top Tier" of Northern Regional Universities. Kaplan included the University in "The Unofficial, Biased Insider's Guide to the 320 Most Interesting Colleges." Also, Kiplinger's named Rowan University one of the "100 Best Buys in Public Colleges and Universities" and the Princeton Review included Rowan in the latest edition of "The Best Northeastern Colleges."

From the modest normal school begun more than 80 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.

## **The Rowan University Mission**

A leading public institution, Rowan University combines liberal education with professional preparation from the baccalaureate through the doctorate. Rowan provides a collaborative, learning-centered environment in which highly qualified and diverse faculty, staff, and students integrate teaching, research, scholarship, creative activity,

and community service. Through intellectual, social and cultural contributions, the University enriches the lives of those in the campus community and surrounding region.

## The Rowan Vision

Rowan University, at the next level, will continue to focus on its commitment to learning and teaching, combining liberal education with professional preparation. Rowan will advance through the rankings of regional universities on the strength of its excellent undergraduate programs and its noteworthy development of a learning-centered environment. At the same time and without compromising the primacy of its focus on residential, undergraduate education, Rowan University will continue to build on its growing leadership in graduate and continuing professional education. The Rowan Experience

The pursuit of high qualitative standards for academic programs for Rowan University will be carried forward in the context of a philosophy that the ideal educational experience focuses on the development of students as whole persons while they are engaged in rigorous academic pursuits. While cultivating the complete intellectual, physical, emotional, social and cultural well being of all members of the University community, the Rowan experience is built upon residential learning communities, mentoring programs, a commitment to service learning and volunteerism, a required Rowan Seminar for incoming freshmen, and awareness of current findings in the study of student life. Additionally, the Rowan experience provides the opportunity for students to work closely with faculty and professional staff in research and professional activities. A principal goal at Rowan is to motivate all students to take responsibility for their own learning, which is the outlook most conducive to the strongest intellectual growth and development.

## Goals

(adopted from Five Year Plan, Strategic Objectives, 2003-2008)

### Academic Programs

High quality academic programs will provide opportunities for student research and collaboration. Student learning outcomes will be assessed

to help students improve and maintain academic success and to assist the institution in monitoring quality. Programs will meet national standards of excellence through national accreditation, peer review and/or benchmarks against standards in the discipline. Information Resources

Rowan University will develop and maintain an effective technology infrastructure to support the university's information-system needs. Information Resources, along with Campbell Library, will play a significant role in assisting students and faculty in identifying and mastering rapidly developing technological resources that are such a dominant force in storing and transmitting information. In addition, Campbell Library will be a key participant in the University's efforts to ensure that all students attain a sufficient level of information literacy supportive of integrative learning.

### Academic and Student Support

Rowan University is committed to providing high quality, student-centered academic and student support services that increase and enhance retention and graduation rates. Implementation of a comprehensive and effective enrollment management plan will allow the university to maintain enrollment at current levels, continue to seek high quality students, assure diversity of the student body, and better accommodate students admission into and progress toward completion of their desired majors. Learning Community

We will continue fostering a community of scholars dedicated to the concept of an integrated learning experience. Increased interaction between faculty and students, as well as the removal of artificial walls that traditionally stand between what students learn in and out of class, will become the hallmark of the Rowan experience. Interdisciplinary and integrative learning will be stressed; living/learning programming will be enhanced; educational programs and student support services will be integrated, and residence hall programming will be further developed. We will broaden our understanding of teaching to incorporate helping students to develop in settings outside of the classroom. International/Multicultural Understanding

We will continue to develop students' understanding of the similarities and differences among various cultural groups and enhance their appreci-

ation of other cultures and of the worth of all individuals regardless of cultural background. Importantly, to move beyond tolerance in inter-group relations on campus will require both curricular and co-curricular activity. Community Service

We embrace our mission of providing service to our community and region, and promote an enhanced sense of civic responsibility and a higher level of civic engagement for all members of the Rowan community. Rowan University is one of the major economic engines of South Jersey, and is also the major cultural and intellectual center in the area. We provide services, life-long educational opportunities for the workforce, cultural events and resources, and enrichment of the intellectual life of the region.

## **Organization of the University**

Under the leadership of its board of trustees and its chief executive officer, the president, Rowan University is organized into five administrative divisions and six academic colleges. The provost directs the University's academic functions, the vice president for student affairs directs student and academic support services, the vice president for administration and finance directs financial, facilities and administrative functions, the executive vice president for university advancement directs development and external affairs, and the executive director of budget and planning provides direction for strategic planning and related activities.

The University is composed of a Graduate School and six academic colleges: Business, Communication, Education, Engineering, Fine & Performing Arts and Liberal Arts & Sciences. Each academic college is directed by a dean. The provost and the three associate provosts direct academic affairs and information resources.

In addition to its Glassboro campus, the University maintains a branch campus in Camden, New Jersey. Geared to meet the needs of urban residents, the Camden campus offers several baccalaureate degree programs as well as a full range of general education offerings.

Rowan University is committed to four broad quality principles: student-centeredness, good practices in instruction, quality management practices, and efficiency and integrity of operations. Assessment of these four areas is integrated in the planning cycle of the University. Student participation in the assessment effort is expected and will be an important contribution to the learning experience.



# DIVISION OF ACADEMIC AFFAIRS

## Office of the Provost

Helen Giles-Gee, Provost  
Bole Hall  
(856) 256-4108  
giles-gee@rowan.edu

Rowan University is an institution of higher learning in which priority is given to the intellectual development of its students. Intellectual development is held to be important for its own sake, essential as part of preparation for future careers and significant for the personal growth of students. Further, the University is committed to an academic tradition that encourages research and provides public service as a function of its social responsibility. All academic programs offered at Rowan University have broad perspectives affecting the mind, body and spirit of its students. Intellectual pursuits often are matched by experiential enrichment-field experience, work study and personal involvement.

Students at Rowan University are expected to master bodies of knowledge. This mastery is typically accomplished by means of subject-matter specialization in combination with a required general education program strongly based in the liberal arts and sciences.

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, the Library, technology delivery and planning and the Rowan University Camden Campus. The Deans of the Colleges of Business, Communication, Education, Engineering, Fine & Performing Arts, Liberal Arts & Sciences and the Graduate School, Library and Rowan at Camden report to the Provost. The Provost reports directly to the President and is second in the chain of command of the University.

## Campbell Library

Marilyn Martin, Dean  
Gregory Potter, Associate Dean  
Campbell Library  
(856) 256-4800  
martin@rowan.edu  
potter@rowan.edu

The Keith and Shirley Campbell Library, a 118,000 sq. ft. facility, houses more than 350,000 books, documents, multimedia materials, newspapers, and special collections. In addition, the library subscribes to an extensive number of online periodical and special information databases in support of the diverse academic programs and majors offered by the University. To provide needed complementary resources, print subscriptions are also held to key academic journals, with extensive backruns in microfiche, microfilm, and bound volumes.

The Library provides two major special collections, one of which is a depository collection of selected U.S. federal and State of New Jersey documents, available in both print and microform. The other is named in memory of Frank Stewart, a prominent New Jersey industrialist who donated an extensive and valuable collection of New Jersey historical documents and artifacts.

With connection to the Rowan campus network, the library is available online 24 hours daily. Reference librarians are available during regular library hours to assist patrons in using both the print and online resources. Specialized databases, such as the multi-million volume OCLC bibliographic database, can be accessed with librarian assistance. Two electronic reference rooms in the library are available during regular library hours. Patrons with laptop computers can be accommodated in the main building.

The library provides orientations, tours, and workshops throughout the academic year, including the summer sessions. A 30-workstation lab is available for "hands on" library instruction.

Located in the Wilson Fine and Performing Arts Building is the Music Library, which houses a large collection of scores, CDs, recordings, and other related materials. Listening equipment is available.

## Rowan University at Camden

Eric Clark, Dean

Tyrone W. McCombs, Associate Dean

Camden Campus

(856) 756-5400

clarke@rowan.edu

mccombst@rowan.edu

Rowan University Camden Campus offers programs and services convenient for the residents of the City of Camden and surrounding counties. Students attending the Camden Campus can take general education courses and complete a full degree program in one of the following majors: Sociology, Elementary Education, and Law and Justice Studies.

The English as a Second Language (ESL) Program on the Camden Campus is very unique. It provides non-native speakers of the English language with the opportunity to study English, improve their language and academic skills and take Rowan courses at the same time.

The Educational Opportunity Fund (EOF) Program on the Camden Campus provides students who are financially or academically disadvantaged New Jersey residents the opportunity to pursue a degree. The EOF students are required to attend a summer pre-college program. During the program, students are enrolled in college preparatory and developmental courses. At the end of the summer program students are evaluated for acceptance to the University for the fall semester.

The courses at the Camden Campus are offered in the day and in the evening for a diverse student body. The flexible course scheduling is designed for individuals who may work. In addition, the Camden Campus also has a Childcare facility for those students who may have family responsibilities.

Rowan University Camden Campus also offers cross registration with Rutgers University-Camden and Camden County College-Camden. In addition, the Camden Campus offers a limited number of support services in collaboration with the City institutions including the Library and recreation center.

## Information Resources

Anthony Mordosky, Associate Provost

Memorial Hall

(856) 256-4743

mordosky@rowan.edu

The Division of Information Resources provides leadership, planning, coordination, and support services for the information technology infrastructure of the university and its satellite campus. Information Resources is committed to providing students, faculty, and staff with universal access to library and information technology resources that support and enhance academic and administrative programs and promote student centeredness, excellence in instructional practice, quality management, and efficiency and integrity of operations.

This division consists of the Office of the Associate Provost for Information Resources, Instructional Technology, Management Information Services, Network and System Services, and the Information Resources Support Desk.

# THE GRADUATE SCHOOL

S. Jay Kuder, Dean  
Memorial Hall  
(856) 256-4053  
kuder@rowan.edu

The Graduate School mission is to provide programmatic leadership, coordination and administrative support for quality graduate programs and experiences at Rowan consistent with national, state and regional educational needs. Through graduate degree programs at the master's, specialist, and doctoral levels and through graduate certificate programs and graduate courses, The Graduate School expands academic opportunities for students to meet workplace, professional and personal desires for lifelong learning. Led by the Graduate Council, graduate program advisors and faculty and the Dean and staff of The Graduate School, the Rowan graduate experience is an integral component of the overall University mission to provide an exceptional environment for achievement and fulfillment.

The office of The Graduate School, located in Memorial Hall (1st floor), is open Monday through Friday (Monday through Thursday from mid-May to mid-August). The main phone number of The Graduate School office is (856) 256-4050. The office can be reached by e-mail at gradoffice@rowan.edu.

The office staff can provide information about graduate programs and admissions procedures and can help students obtain additional academic advisement. The staff of the office of The Graduate School are

S. Jay Kuder, Associate Provost for Research and Dean of The Graduate School

Dorie Gilchrist, Director of Graduate Admissions

Brenda Marlin, Coordinator, Graduate Advisement Services

Karen Haynes, Coordinator, Graduate Admission Services

Karen Heiser, Secretary to the Dean

Carol Cope, Secretary, The Graduate School

## Admission to The Graduate School

To be admitted to a graduate program at Rowan University, an applicant must have a baccalaureate degree from an accredited college or university in the United States or its equivalent from a foreign institution of higher education. In the admissions process, applicants must also present evidence of potential for graduate study demonstrated by undergraduate academic performance, two letters of recommendation (at least one should evaluate related professional skills, e.g., teachers should include an evaluation of teaching skills by a supervisor), and standardized test scores taken within the last five years for all master's and doctoral degree programs. Some programs have additional specific requirements. The Graduate Application contains information about specific program requirements; program descriptions in this catalog also identify program-specific additional admission requirements.

Graduate applications are available for both degree and non-degree (certification) programs by contacting The Graduate School, Memorial Hall, Glassboro, New Jersey 08028-1701; (856) 256-4050; fax (856) 256-4436; or on line at gradoffice@rowan.edu.

## Honors Admission for Rowan Students

Rowan students who have graduated within the last three years, or Rowan seniors in their final semester, will be guaranteed admission to appropriate master's degree level programs in The Rowan Graduate School if they have achieved a cumulative GPA of 3.8 or above in their undergraduate coursework and meet other admissions requirements. These students would be 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.

## Basic Questions about Graduate Study

1. How can I take a course before being accepted into a program?

Some students prefer to “try out” one or two graduate courses before applying to a program or to improve their academic or professional credentials. Students are permitted to take up to nine credits (usually three courses) of graduate coursework as non-matriculated students except for MBA program, selected certificate programs where six credits (two courses) is the limit. Non-matriculated students may register at In-Person Registration if they provide proof of the award of the undergraduate degree. If students provide evidence of the award of a master's degree or higher, they will be permitted to register for non-reserved courses beyond the nine credit limit during In-Person Registration (the only registration period available for non-matriculated students to register for any course).

2. Can I go part-time?

A substantial number of students pursue degree or certification programs on a part-time basis. To accommodate these students, academic departments have scheduled most graduate courses in late afternoons and evenings. Most graduate courses meet once a week, usually from 4:45-7:15, 7:25-9:55, or 6:30-9:00 p.m. in the fall and spring semesters. The Registrar's Office prepares course schedule booklets each semester listing available courses and meeting times.

3. What are the application deadlines?

Most Rowan University graduate applications are accepted at any time of the year (rolling admissions). However, selected graduate degree programs have established application deadlines (October 1 for Spring admissions and March 1 for Summer and Fall admissions for School Psychology, Mental Health and Applied Psychology, Student Personnel Services, Learning Disabilities, Reading Education and Writing). The Masters of Science in Teaching application deadlines to submit all materials, including all official relevant tests scores is April 1.

4. How are admissions decisions made?

Applications cannot be reviewed by a program admissions committee until all required materials are received. In order to facilitate this process, all materials should be submitted at one time in the envelope attached to the application. Applicants will be notified of a decision as soon as possible by letter.

Because of competition for available slots, students must be aware that complying with all admissions requirements does not guarantee acceptance. Applicants are evaluated on the basis of multiple criteria: grade point average (both undergraduate and graduate); recommendations; standardized test scores and any additional criteria required by the program of choice, such as interviews, writing samples, etc., as listed in the application requirements in this catalog under individual program descriptions. Every effort is made to identify and admit those students who demonstrate clearly both the ability to benefit from the proposed program of study and the greatest promise of scholarly achievement by carefully examining a variety of different criteria.

5. How long can I take to complete my program?

Students have six years from the date they matriculate to complete their graduate degree programs. Under certain circumstances, a one-time extension of up to one additional year may be granted.

6. Can I get financial aid?

Need-based financial aid for graduate students is administered by the Office of Financial Aid at Rowan University (256-4250). Applications should be filed as soon as possible after January 1. Applicants are advised not to wait for an admission decision before applying for need-based financial aid. In addition, a limited number of graduate assistantships are available annually through The Graduate School. Applications are available in March prior to the fall semester of the next academic year. Successful applicants receive tuition waiver and a stipend in exchange for part-time employment on campus. Call The Graduate School (256-4050) for more information.

7. What if I just want to get New Jersey teaching certification?

At Rowan University, the post-baccalaureate program leading to regular initial New Jersey teaching certification is an undergraduate program and is administered through the Office of The Graduate School 256-4027.

Individuals who seek additional certifications at the graduate level are encouraged to apply for program admission through The Graduate School.

### **Admissions Requirements for International Applicants**

In addition to the application requirements for all students as noted above, foreign or international applicants who have completed a baccalaureate degree at a college or university outside the U.S. are required to earn minimum scores of 213 (computer-based test) or 550 on the paper test of English as a Foreign Language (TOEFL), provide evidence of immunization against measles, mumps, and rubella, and evidence of the ability to have medical insurance coverage during their proposed stay in the U.S. Applicants are further required to submit all application materials, including transcripts, diplomas, certificates, etc. translated into English. Foreign or international applicants must arrange with World Education Services to have at least a document by document review of their educational credentials. World Education Services must confirm that the applicant's undergraduate experience is the equivalent of four years of undergraduate study at an accredited U.S. college or university, culminating in the bachelor's degree. Also, foreign or international students are required to certify that sufficient funds to support their academic and personal living expenses during their stay in the U.S. are available. A non-refundable admissions deposit of \$300.00 is required as a condition of granting the F-1 visa. This deposit will be applied to tuition and fees for the student's first semester at Rowan University. Student deposits which are not applied to tuition costs within one year of acceptance may not be applied to tuition costs after that time.

The F-1 visa is the only visa acceptable to Rowan University for purposes of admission. As a condition of continuing matriculation, foreign or international students are required to maintain

full-time (at least 9 semester hours per term) enrollment in graduate courses leading to a degree.

### **Program Transfers**

Students wishing to transfer from one program to another should complete a transfer request form and return the form to The Graduate School. Approval for transfer is given by the program advisor of both the exiting and receiving programs, department chair, college dean, and the dean of The Graduate School. The student, however, must meet the conditions established by the advisor of the program into which transfer is requested. Students with questions about program change or special requests should see the program advisor or the staff of The Graduate School. The six-year requirement for matriculated students to complete a program begins with the date of the initial program.

### **Restriction on Non-Degree And Non-Matriculated Students**

Certain graduate courses may be taken by college graduates who wish to broaden their educational experience without reference to the requirements for a degree. However, students undertaking such work must apply for admission to the graduate program before completing nine hours of graduate credit if they intend to become degree candidates or if they wish to continue graduate study. The University reserves the right to specify what courses may be available for non-degree seeking and non-matriculated students and to establish certain minimum qualifications for enrollment in graduate courses by non-degree seeking students and to restrict their course registrations. Most M.B.A. and M.S.T. graduate courses are not available to non-degree seeking and non-matriculated students.

Non-degree seeking and non-matriculated students take courses at their own risk. The courses taken by non-matriculated and non-degree students may or may not apply to a program if the applicant is accepted. No more than nine semester hours of graduate courses may be taken by non-matriculated and non-degree students or may be applied to a master's program. No more than eight semester hours may be taken in any one semester. Non-degree and non-matriculated students who register for graduate courses at Rowan University

for the purpose of pursuing certification through the New Jersey Department of Education are subject to all restrictions applicable to other non-degree seeking and non-matriculated students regarding course enrollments and course credit limitations.

### **Post-Baccalaureate Teacher Certification Programs**

Selected post-baccalaureate teacher certification programs are available in approved undergraduate teacher certification programs at the University. These programs are designed to provide initial teacher certification to candidates who may be liberal arts graduates of an accredited college or university or certified teachers seeking an additional certification that does not require a master's degree. These programs require an earned bachelor's degree in undergraduate programs with the same course requirements as Rowan's degree programs. Admission to post-baccalaureate teacher certificate programs is through the Office of Graduate Admissions (256-4027).

Students accepted into the post-baccalaureate teacher certification program are restricted to a maximum of six semester hours of graduate course work. Registration in additional graduate courses requires the approval of The Graduate School dean. Students who exceed this six semester hour maximum may have their registrations withdrawn.

### **Registration Procedures**

Telephone and on-line registration for matriculated students is usually conducted in April and May for the Fall semester, in October and November for the Spring semester and beginning in March for the Summer sessions. Consult the Master schedule of Classes for exact dates.

Payment of tuition and fees for those students who use telephone and on-line registration must be made by the date indicated on the course confirmation invoice (term bill). Students who do not pay by the date indicated on the invoice will have their confirmations canceled. Students wishing to re-register after such a cancellation may do so at final registration by making selections from courses with seats remaining and paying tuition and fees at that time. Please note, that students who register during the final registration period will be charged a late registration fee.

In some instances, students who request courses via telephone registration will not receive such courses because they may have been canceled or closed because requests exceeded seat capacity. When this occurs, charges for these courses will not appear on the term bill. Students whose requests for courses are not accepted may register for alternative courses during the schedule adjustment period or at final registration for no additional charge.

Telephone and on-line registration course confirmation invoices for students receiving scholarships, VA benefits, graduate assistant stipends and other financial aid must be validated by the Business Office by the date indicated on the invoice. Students are responsible for this validation regardless of who is paying the bill. If such validation has not been completed by the due date on the invoice, the confirmation will be canceled. If students wish to re-register after such a cancellation, they may do so at in-person registration by making selections from courses with seats remaining and presenting evidence of financial aid at that time.

### **Final Registration (Matriculated and Non-Matriculated Students)**

Final registration is usually conducted one week prior to the beginning of a semester or summer session. A late registration fee is charged.

### **Immunization and Medical Records**

As a condition of admission and continued enrollment, each student is required to provide evidence of immunization against measles, mumps, and rubella (N.J.S.A. 18A:61D-1). All residential students must have proof of meningococcal vaccination. This vaccine is highly recommended for all other students. Students are also required to submit a complete medical record to the student health center. Additional information on these requirements is available from The Graduate School. (256-4050) or the Student Health Center (256-4333).

### **Deferred Payment Plan**

Under certain circumstances, deferred payments plans are available for full-time students. For more details, students must consult with the Bursar's Office (256-4150).

### Full-Time Status

A full-time graduate student is one who has enrolled for a minimum of nine (9) credit hours per semester.

### Academic Policies and Requirements

The following selected policies and procedures govern conditions that affect student enrollment. It is important to note that these are not a summary of all academic policies and procedures that govern graduate study. For more information on these and other policies that may relate to academic affairs, students are encouraged to consult the Graduate Student Handbook.

### Academic Honesty

The vitality of any academic program is rooted in its integrity. It is essential to Rowan University that the grades awarded to students reflect only their own individual efforts and achievements. Each segment of the academic community, i.e., faculty, students and administration, is responsible for the academic integrity of the University. Academic dishonesty, in any form, will not be tolerated. Students found to have committed an act of academic dishonesty may be subject to failure in the course, suspension from the University, or both.

### Grading System

The following are used to evaluate students' performances in courses:

letter grade	point value	
A	4.0	Excellent
A-	3.7	
B+	3.3	
B	3.0	Good
B-	2.7	
C+	2.3	
C	2.0	Fair
C-	1.7	
D+	1.3	
D	1.0	Poor
D-	0.7	
F	0.0	Failure
P	—	Pass

NC	—	No Credit
IN	—	Incomplete
The following notations are inserted by the Registrar:		
W	—	Withdrawal
FR	—	Failure to Record a Grade

The **FR** designation (Failure Registered) will be inserted by the Registrar when instructors do not record grades for students in courses in which these students are registered. This notation may be changed later to a regular letter grade by instructors using the "Change of Grade" procedure. The notation could be changed to a **W** if students present sufficient evidence of withdrawal from the course involved.

The interim grade of **IN** (incomplete) may be assigned by an instructor under certain circumstances. This grade must be removed before the end of the following academic semester. If students believe that circumstances warrant an extension, they may request the instructor, in writing, for such an extension. If approved, the instructor will renew the incomplete in the Registrar's Office when grades are due. Failure to remove the incomplete grade within the prescribed time will automatically change the **IN** to an **F**. Doctoral students proceeding through the 12 semester hours of dissertation credits are awarded the **IP** (In Progress) designation instead of the **IN** (Incomplete) grade until the sequence is completed.

Grades of **C- and below** do not meet the requirements for graduate credit and will not be applied to the credits necessary for the successful completion of a degree or certification program.

### Academic Warning and Dismissal From the Graduate Program

#### Academic Warning

Students will be placed on academic warning for either of the following conditions:

1. A student receives two grades (6 s.h.) of C+ or below.
2. A student has a cumulative GPA of less than 3.0 after accumulating 9 graduate credits or more.

## *Dismissal Conditions*

Academic dismissal occurs when students fail to maintain satisfactory progress toward the attainment of their graduate degrees or certifications. Students accumulating more than 6 s.h. of **C+ or below** or earning a cumulative GPA of less than 3.0 after taking 12 graduate credits or more will be subject to academic dismissal. Such dismissal will generally, but not always, take place at the end of the academic year, whether or not the student is currently registered for courses. Students so dismissed may not register for any additional graduate courses at Rowan University either as matriculated or non-matriculated students. Students who do register will have their registrations withdrawn by the Registrar. Students who have been dismissed may seek readmission through the Office of The Graduate School after one academic year. Students who are dismissed forfeit grants, graduate assistantships, and/or scholarship aid that may be in effect at the time. Students who are academically dismissed have the right to appeal through the dismissal appeal process of The Graduate School.

## **Class Attendance**

Students are expected to be present at each scheduled class for which they are officially registered. Rowan's community of learners can be realized only when teachers and learners interact in ways deemed appropriate for any particular class. Because Rowan recognizes diversity in both teaching and learning styles and even course design and delivery rules may vary with the learning experience, e.g., online or distance learning courses.

Faculty establish the parameters of a particular learning experience and are expected to maintain the efficiency of the community and to keep accurate attendance records. Faculty are also expected to counsel students who develop a pattern of excessive and unexplained absences, and to request assistance from the dean of students if the pattern of absences continues.

Students who are absent for reasons of illness, death in the family, inclement weather, religious observances, official university activities or for matters of personal conscience should inform each of their instructors, ideally with a written excuse, before the fact or as soon as possible thereafter. Except in cases where classroom experience can

not be repeated, faculty may provide these students the opportunity to make up written work, tests or other assignments at the earliest possible convenient time.

In any event, faculty are under no obligation to make special provisions for students absent for reasons other than those listed above.

Faculty may establish additional attendance criteria which are consistent with the above paragraphs. In learning communities, where attendance is critical to the functioning of the group, the rationale and justification for additional attendance requirements must be part of the syllabus provided for students prior to the end of the drop/add period.

## **Audit Policy**

Students who wish to attend classes in a particular course and not receive credit may do so by registering for the course as an auditor. Auditors must register on the last day of the late registration/drop-add period after all students who wish to take the course for credit have had the opportunity to register. Auditors may choose whether or not to do the normally required course work; likewise, instructors may choose whether or not to formally evaluate auditors' work. Auditors receive neither grade nor credit for any course. Courses designated "AU" (audit) on students' transcripts do not count in defining full-time/part-time status, financial aid or veterans' benefits, or degree requirements. Students are not permitted to audit private lessons for credit in the Department of Music, internships, student teaching, independent study, or other experiential courses, or courses with mandated academic prerequisites. Tuition for courses taken under the audit designation is established by the University's Board of Trustees.

## **Withdrawal System**

Registration in a given Rowan University course implies the student's obligation to complete its requirements. Provisions for withdrawal are made for special circumstances. Except in extreme circumstances when the department chair and the dean of a particular college allow, students are not permitted to withdraw from the same course more than two (2) times.

The notation of **W**, withdrawal, is not a grade. The notation of **W** is made by the Registrar on the basis of information supplied by the student.



Students should follow the regulations stated below in order to receive the notation of **W**.

- a. To drop a course during the drop/add period only, students must secure a “Drop/Add” Form from the Registrar’s Office. When students withdraw from a course during the drop/add period, neither the course nor the drop will be recorded on the transcript.
- b. To withdraw from a course between the drop/add period and mid-semester, students must secure a “Withdrawal from Course Request Form A” from the Registrar’s Office. The reason for the request may be stated on the form and must be signed by both the student and the course professor, who must note the student’s last date of attendance in class on the form. Upon receipt of the signed “Withdrawal from Course Request Form A,” the Registrar’s Office will enter a **W** on the official transcript.
- c. To withdraw after mid-semester, the same process as stated in item “b” above will prevail, except that the reason(s) for the request must be stated and approval must be obtained from the professor and respective department chairperson. If the approval is granted, the professor will indicate that the student is withdrawing with a passing grade (**WP**) or withdrawing with a failing grade (**WF**). The professor will also note the student’s last date of attendance in class on the form. Upon receipt of the properly approved form, the Registrar’s Office will enter a **WP** or **WF** on the official transcript.
- d. Withdrawals during the last four weeks of the semester are considered exceptional and may occur only with the approval of the professor, department chairperson and dean and only for good and sufficient reasons beyond the control of the student. (**WP/WF** remains in effect.)

### Repeating a Course

In the event that a student must or voluntarily chooses to repeat a course, the grade received for the repeated course will constitute the final grade for that subject for cumulative G.P.A. purposes—whether the grade is higher or lower than the grade received in the original course. The original grade, although not counted in the cumulative G.P.A., remains on the student’s transcript. It is the responsibility of the student to notify the

Registrar’s Office when a course is repeated. The G.P.A. is not changed without this notice. The University stipulates that the same course may not be taken more than twice including withdrawals. However, except for general education courses, further restrictions may be determined by the individual departments/ colleges, only to meet standards recommended by accrediting bodies, statutory regulations, and/or professional societies. Appeals may be made through the normal appeals process.

### Senior Privilege

Seniors at Rowan University who have earned a 3.0 GPA may request permission from The Graduate School dean to register for one graduate level course per semester. The total number of graduate credits taken shall not exceed 6 semester hours. Students may take a graduate course for application to either an undergraduate or a graduate degree, but may not apply the course to both. For a student to enroll in a graduate course, recommendations are required from both the student’s undergraduate program advisor and the chairperson of the department(s) in which the graduate course(s) is/are housed. Furthermore, final approval for exceptions to the policy must also be obtained from the dean of The Graduate School.

### Requirements for a Graduate Degree and/or Certificate

The requirements for successful completion of each degree and/or certificate program differ; however, there are specific requirements that are common to all graduate programs:

1. A maximum of nine semester hours in graduate credit from another accredited U.S. college or university may be applied toward the required program credits, provided the grade for each course is at least a B (3.0) and has been earned within the last 10 years. Students must complete a form in The Graduate School Office requesting the transfer of credits from another institution. This form and an official transcript of the course(s) should be submitted to The Graduate School for processing. The transfer of courses must be approved by the student’s program advisor, the department chair, the appropriate college dean, and the dean of The Graduate School.

Transfer courses may be accepted within the following provisions:

- a. Transfer courses from accredited U.S. institutions of higher education may be accepted as free electives.
  - b. If the student requests that the transfer course be used as a program requirement, the department offering the Rowan University course for which the transfer course would be substituted and the program advisor will review the course description and will recommend action to the department chair, the appropriate college dean, and The Graduate School dean for final approval.
2. In order for Rowan University to recommend to the New Jersey Department of Education that a certification be awarded after completion of a program of studies, the student must have successfully completed a minimum of 15 semester hours or two-thirds of the program's semester hour requirements (whichever is appropriate) in residence at Rowan University.
  3. In very rare and compelling instances beyond the control of the student, it may be possible to apply a selected upper level (junior/senior) undergraduate course to the requirements of the graduate degree or certification program. Students who wish to request this alternative must do so in writing to their respective graduate program and academic advisors. Approval must be granted by the advisor(s), department chair, appropriate college dean, and The Graduate School dean. Students may not request permission to apply more than 3 credits of such undergraduate courses to their degree or certification programs. The undergraduate course may only be taken after a student has successfully matriculated into a graduate program and after written approval as described above has been obtained.
  4. A cumulative grade point average of 3.000 must be maintained for graduate work involved in the program course requirements. To maintain satisfactory academic progress, students may earn no more than six semester hours in courses with grades of **C+ or below**. Grades of **C- and below** do not meet the requirements for graduate credit and will not be applied to the credits necessary in graduate degree programs. Students must earn at least a **B** average (3.000 GPA) to receive any graduate degree or recommendation for certification. Students who fail to maintain satisfactory academic progress are subject to academic warning and/or dismissal. For information on the University's academic warning and dismissal policies, readers are referred to the appropriate section in the catalog entitled "Academic Policies." (p xx).
  5. The master's degree or the advanced certification program must be completed within six academic years following the first enrollment as a matriculated student in graduate courses at Rowan University. Students who do not maintain continuous enrollment within limits prescribed by University policy may be involuntarily withdrawn from the University. In rare and compelling instances, an extension of up to one year may be requested by a degree candidate to complete his/her program. This request may be granted only once upon approval by the program advisor and dean of The Graduate School.
  6. Most programs require that a student present a written project as one of the requirements for the degree. The project must have academic significance and must be completed under the guidance of the student's program advisor or someone officially designated by the advisor. The project, as a general rule, will be in the student's area of specialization in the graduate program. Typically, it will be completed as part of the requirement of a seminar in the field of specialization. The project must show evidence that the student:
    - a. understands the essentials of a research problem
    - b. proceeds independently with a well organized plan of work
    - c. demonstrates reasonable familiarity in handling the research methods involved in the project
    - d. demonstrates reasonable facility in writing and interpreting the material, and
    - e. demonstrates skill in relating findings and conclusions to professional needs.

7. A final written comprehensive examination is required of candidates for the master's degree, with the exception of the Master in Business Administration, the Master of Science in Teaching, and the Master of Science in Engineering. The examination is normally administered twice a year with a minimum of three months between the scheduling of the examinations. Prospective graduates may repeat the examination once. Exceptions to this must be approved by the program advisor, departmental chair, appropriate college dean and dean of The Graduate School. The examination shall be prepared, reviewed and the results evaluated by the student's graduate program committee. The committee shall also develop a system of identification that ensures the anonymity of the student until the examination evaluators have completed the assessment of the total examination.

The examination committee will prepare written, predetermined criteria for success in the examination. Upon request of the program advisor, these criteria may be distributed, in writing, to the student when the student applies to take the examination. Students will make application to the program advisor to schedule the examination.

Comprehensive examinations are usually scheduled in the fall (October-November) and in the spring (March-April). The specific schedule, within this framework, will be available in advance from the program advisor and The Graduate School. Nevertheless, it is the sole responsibility of the student to schedule the comprehensive examination with his/her advisor. In exceptional circumstances the student may be scheduled for the examination in the summer upon the recommendation of the program advisor and the approval of the dean of The Graduate School.

8. Each candidate for the master's degree is required to enroll in at least two sequential semesters in which the student must demonstrate the ability to engage in sustained and in-depth study. For the purpose of this requirement, a summer session may be counted as a semester. The seminar and research courses, with the approval of the program advisor, may fulfill this requirement.

## **Seminar and Research (Master of Arts and Master of Science in Teaching)**

Only fully matriculated students may register for research seminar courses. Approval by the program advisor is required before a student may register for any specialization research seminar and internship. Registration in these courses requires a grade point average of 3.000 in the basic professional and specialization courses. The student may be required to successfully complete the course, 0824.501 Procedures and Evaluation in Research, as a prerequisite for registration in the seminar and research courses. Although the structure of the seminar and research component may vary for the various curricula, each curriculum includes the study of research methods and findings and the designing and conducting of research.

Where the grade of **NC** has been recorded from a previous enrollment in the graduate seminar because the student did not complete the master's project, the student should register for the appropriate number of credit hours in "Research Seminar (R)" during a regular term or a summer term. Approval to register for Research Seminar (R) must be obtained from the dean of The Graduate School.

The written research project must be prepared in the format style of the American Psychological Association unless approved for an alternate style by the program advisor and the dean of The Graduate School.

## **Graduate Credit by Examination**

Examinations for academic credits in lieu of regular class enrollment are very rare and are available to graduate students at Rowan University only under the following conditions:

1. Each department and the program advisor will determine which of the department's courses, if any, might be completed for credit by examination.
2. Students who wish to exercise the credit-by-examination option, if it is available, must register and pay all tuition and fees for the course. Examinations will be administered only once. Students who pass the examination will be given a grade of "**P**" (Pass). Students who do

- not pass the examination must be given a grade of **“NC”** (No Credit). Students who receive a grade of **“NC”** may register and re-take the course if they wish. However, under no circumstances may students request to exercise the credit-by-examination option more than once per course.
3. Examinations will be developed by those faculty usually teaching the subject matter, but must be approved by a majority of the members of the department. Upon the approval of the department, the program advisor, in consultation with the department chair, should inform the appropriate dean of those courses for which tests have been developed and which may be used for credit by examination. Questions regarding courses that may be available for credit by examination should be directed to The Graduate School. There should be on file in the department more than one form of each examination for those courses which the department has approved for credit by examination.
  4. The examination should be comprehensive enough to satisfy the faculty of the department and the University that academic standards are maintained. The examination may be written, oral or performance based; but, in any case, it should be evaluated by at least two members of the department who teach graduate courses, at least one of whom has taught the course for which the examination has been prepared.
  5. Each program advisor will keep proper records of all examinations for credit and forward a summary of results to The Graduate School.
  6. A method of periodic review of the effectiveness of examination for credit will be established by the Graduate Council in accordance with prevailing policies and procedures.
  7. Students may apply to the degree or certification program a maximum of six (6) semester hours through the credit by examination process.
  8. The University will establish appropriate fees for credit by examination.
  9. The Graduate School, in accordance with prevailing policies and procedures, will establish dates on which tests may be administered.

# FINANCIAL INFORMATION

## Tuition and Fees at Rowan (2003-2004)\*

*\*subject to annual change*

### Full-Time

<b>In-State</b>	4,957/semester
<b>Out of State</b>	\$7,507/semester

### Part-Time

*Tuition & Fees (Master's level)    Tuition & Fees  
(Doctoral level)*

<b>In-State</b>	\$450.30/credit \$491.30/credit
<b>Out of State</b>	\$682.30/credit \$748.30/credit

### Tuition

Graduate tuition rates are:

#### Full-Time

New Jersey resident	\$9,914
Non-resident	\$15,014

#### Part-Time

New Jersey resident	\$385 per credit hour
Non-resident*	\$617 per credit hour

Doctoral tuition rates are:

New Jersey resident	\$426 per credit hour
Non-resident	\$683 per credit hour

*\*For the policy on determining New Jersey residency for purposes of tuition, contact the Rowan University Registrar's Office at 256-4350.*

### Student Center Fee

This fee is charged to all students at \$16.30 per credit hour. Total construction costs for the Student Center building, including costs of the bond sale and assumed interest rate, were approximately \$6,000,000, therefore, it is necessary to assess the student body a fee to cover the operating expenses and amortization cost of the building.

### General Services Fee

This fee is charged to all students at \$21.00 per credit hour for general services that include health examinations, use of the University's Health Center, access to medical help, placement service, counseling service, graduation expenses (including diploma), and other services not funded by State appropriations.

### Facilities Fee

This fee is charged to all students at \$18.00 per credit hour. The fee helps pay for the debt service, operation and maintenance costs of recently completed campus facilities that all students can now use.

### Technology Fee

This fee is charged to all students at \$10.00 per credit hour.

The fee helps pay for the costs of new instructional technology equipment and for the maintenance of current equipment.

The following is a summary of fees charged at Rowan. Tuition and other charges are subject to change at any time in accordance with policies established by Rowan University. The fees do not include the cost of textbooks and personal expenses.

## Selected Financial Information

### Fees at Rowan

The following is a summary of fees charged at Rowan. Tuition and other charges are subject to change at any time in accordance with policies established by the board of trustees of Rowan University. The fees do not include the cost of textbooks and personal expenses. Fees at Rowan for academic year 2003-04 are:

Admissions Application:	\$50
Identification Card	\$10.00
ID Card Replacement	\$10.00
Deferred Payment Plan Fee	\$30
Late Payment Fee	\$25-50
Late Registration Fee	\$75

Returned Check Charge	\$25-50
Parking Fee	\$20
Student Accident and Health Insurance (subject to change)	\$86.00
Transcript	\$5
Music Practice Room Key Deposit	\$10
Library Fines	
First Notice	\$1
2nd Notice	\$3
3rd Notice	\$6

Cost of book replacement (\$30 + fine) thereafter. Library and other services may be denied if fine obligations are not met.

### Term Bills

The Bursar's Office is responsible for the billing of students and for the collection of payments. A statement of expenses for the fall semester will be mailed by August 1. A similar statement is usually mailed on or about November 15 for the spring semester.

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 (256-4150).

Checks in payment of all charges should be made payable to Rowan University.

Payment may also be made with American Express, MasterCard and Visa. Detailed information on use of these credit cards is available to students prior to the beginning of each semester. Tuition and fees, regulated by the Rowan University Board of Trustees, are subject to change without notice to individual students.

In many instances, students who request courses will not receive such courses because they may have been cancelled or closed because requests have exceeded seat capacity. When this occurs, charges for these courses will not appear on the term bill. Students whose requests for courses are not accepted may register for alternative courses during the schedule adjustment period or at in-person registration.

### 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 non-payment 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 times 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. If it becomes necessary, any appeal of a decision resulting from such a hearing must be arranged through the collection manager, Bursar's Office, or dean of students in Savitz Hall.

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

### Transcript Fee

Transcripts are prepared by the Registrar's Office in accordance with the policies of the American Association of Collegiate Registrars. Transcripts are sent only upon the written request of students. Where Rowan University transcripts show credit hours earned at other institutions, the official transcripts from those institutions have become a part of the student's permanent file in the Registrar's Office. Rowan University does not make copies of other institution's transcripts; it is necessary to obtain such transcripts directly from the institutions concerned. There is a \$5 charge to process a request for each official Rowan transcript. Disclosure of information contained in students' official transcripts may only be done in accordance with the provisions of the Family Educational Rights and Privacy Act of 1974 (FERPA).

### Identification Cards

The University requires that all matriculated students carry an official identification card at all times. This card is needed for library use, student

activities, registration, and security purposes. Students must be registered for classes to qualify for a card. The cards are made in the Student Center, and the initial charge for an ID card is \$10. Replacement of a lost or stolen card is also \$10 and is initiated in the Registrar's Office in Savitz Hall.

### **Insurance**

As a service to students, Rowan University makes available a low cost health and accident protection plan. The \$126 fee includes coverage for twelve months. Additional coverage for a student's spouse and/or children may also be purchased. All students who compete in intercollegiate sports programs are covered while participating by a separate policy purchased by the University. Premiums for insurance are subject to change. Additional information is available in the Dean of Students Office.

### **Late Payment Fee**

Students on Deferred Payment Plan who fail to pay bills by the date due will be charged a non-refundable late payment fee between \$25 and \$50, depending on when payment is made.

### **Late Registration Fee**

Students who fail to register at the time designated will be charged a non-refundable \$75 fee.

### **Parking**

Parking on campus is available to commuting students by decal only and is subject to regulations currently in effect. The fee is \$20.

### **Returned Check Charge**

A charge of \$25-50 will be made for each check that is given to the University if it is returned by the bank for any reason.

## **Graduate Assistantships and Financial Aid**

Students who wish to apply for a graduate assistantship or for some other type of financial aid must be fully admitted to a degree program. Applicants should allow sufficient time for admissions credentials to be assembled and for the graduate application to be processed.

### **Graduate Assistantships**

A limited number of graduate full- or part-time assistantships are available each year for qualified matriculated degree students who are recommended by one of the academic or student affairs units of the University and approved by the dean of The Graduate School and the provost. The terms and conditions associated with these assistantships may vary at the discretion of the University. The stipend of the assistantship may also vary. The maximum workload is 20 hours per week for full-time regular assistantships. Half-time and research assistantships may also be available. In addition, the graduate assistant receives a waiver of tuition for program required courses only taken during the fall and spring semesters. Tuition waivers may, at the discretion of the University, vary according to the terms and conditions of the assistantship.

The length of the assistantship is normally one academic year, commencing on September 1 and concluding on June 30. Students may request to extend their assistantships through the end of the succeeding summer semester (tuition waiver only), but must work ten hours for each credit of study during the summer. The maximum number of credit hours for which tuition may be waived is generally governed by the requirements of the graduate program to which they are admitted, including the summer term. In selected instances under certain conditions, consideration may be given, upon request by the graduate assistant, to extend the assistantship beyond one year. Other conditions, at the discretion of the University, may also be established for the graduate assistantships.

Graduate assistant applications are generally available from The Graduate School in March of each year for the succeeding academic year.

### **Resident and Recreation Center Assistantships**

Opportunities are available for matriculated graduate students to work as resident directors or student recreation center assistants. These graduate students must fulfill the institutional obligations of these assistantship programs and serve from September 1 until August 30 of the succeeding year. For resident directors there is a monetary stipend plus room and board for the fall and spring terms. For more information, students should contact the Office of Residence Life at 256-4266 or the Director of the Student Recreation Center at 256-4900.

## Financial Aid Programs

Financial aid is available to graduate students who have been admitted as degree candidates, are making satisfactory academic progress, intend to register at least half-time, and fulfill the eligibility requirements of the program for which they apply. For purposes of financial aid, the University has established that nine semester hours of course work constitutes full-time status. For information, contact the Financial Aid Office at 256-4250.

### Federal College Work Study (FWS)

With funds supplied by the Federal government, Rowan University provides jobs both on an off campus during the academic year for students who qualify. Students should indicate an interest for this program on the FAFSA. Many work-study positions provide skills and experience, which will assist students in their career development. Students can arrange their hours to the time they have available to work. Hours worked cannot exceed 20 per week while classes are in sessions or 30 per week when classes are not held. For more information, check our web site at: [http://www.rowan.edu/studentaffairs/financialaid/types/work\\_study/index.html](http://www.rowan.edu/studentaffairs/financialaid/types/work_study/index.html).

### Institutional Work Study Program (IWS)

Students not eligible for the Federal Work Study (FWS) program and who are interested in employment should apply through the Financial Aid Office for Institutional Work Study (IWS) opportunities. The University offers student jobs during the academic year and summer. Positions vary from general office to pre-professional opportunities. Many work study positions provide skills and experiences, which will assist students in their career development. Students can arrange their hours to the time they have available to work. Hours worked cannot exceed 20 per week while classes are in sessions or 30 per week when classes are not held. For more information, check our web site at: [http://www.rowan.edu/studentaffairs/financialaid/types/work\\_study/index.html](http://www.rowan.edu/studentaffairs/financialaid/types/work_study/index.html).

### Educational Opportunity Fund Graduate Grant (EOF)

Applicants must be New Jersey residents for 12 months prior to making application. To be eligible, the applicant must be a student from an economically disadvantaged background who demonstrates financial need. Applicants receiving an EOF graduate grant need not have been EOF recipients as undergraduates. Grants in the amount of up to \$4000 may be awarded annually. Duration and amount of grants depend on the course of study selected. Students who

seek financial aid through EOF are required to apply in advance of beginning their studies at Rowan University. Students wishing to apply for EOF assistance are strongly encouraged to contact the EOF Office (256-4080) well before they begin their studies.

### William D. Ford Federal Direct Stafford Loan (Formerly GSL)

This program is available to matriculation which the obligation exists. d students who file a free application for federal student aid and present a valid student aid report to the Financial Aid Office. Students must be citizens or eligible non-citizens of the United States to be eligible. A graduate student who is enrolled at least half-time and is making satisfactory academic progress toward a degree or certificate may borrow up to \$8,500 each academic year with a cumulative amount of \$65,000 (including undergraduate amounts). If the student is eligible, the federal government may pay the interest until six months after graduation or withdrawal from the University, at which time the borrower must begin to repay the loan. Information on interest rates from this program are available from the Financial Aid Office.

### New Jersey CLASS Loan Program

Students may borrow up to the full cost of attendance (minus other financial assistance). Students must be matriculated in a graduate program. For more information see [www.hesaa.org](http://www.hesaa.org) or contact the Financial Aid office at 256-4250.

### Veterans' Benefits

Eligible veterans may receive financial assistance in monthly payments based on dates and duration of service. Students interested in veterans assistance should contact their local offices of the Veterans Administration or the Office .

### Scholarship Programs

Students seeking assistance through any of the following programs should contact the appropriate office as noted below.

#### Alumni Scholarships

A limited number of Alumni Scholarships is available each year. These are partial scholarships intended to help defray the costs of graduate education. Contact the Alumni Office (256-4131).

#### MST Scholarships

A limited number of scholarships are available to eligible students from minority racial and under-represented ethnic groups who qualify for admission to the Master of Science in Teaching (MST) graduate degree program. Contact The Graduate School (256-4050).



# COLLEGE OF BUSINESS

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Richard Parker, Advisor  
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## Programs Offered

### M.B.A., Master of Business Administration

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M.B.A. Office  
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The Master of Business Administration (M.B.A.) program at Rowan University is fully accredited by AACSB International—The Association to Advance Collegiate Schools of Business. It 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 M.B.A. curriculum emphasizes critical thinking, quantitative analysis and computing applications, and the technological and international nature of business.

The Rowan M.B.A. program offers small class sizes with an average student/faculty ratio of 15 to 1. M.B.A. classes are scheduled on evenings and Saturdays. The program attracts graduates from business, sciences, engineering and other pro-

grams whose careers are leading them to positions of responsibility in business or industry.

The M.B.A. program consists of 12 graduate classes with nine required and two elective courses. The two elective courses allow the individual student to tailor the academic program to meet his/her specific career development needs. Prospective students who do not have the required foundation courses may enroll as Pre-M.B.A. students while completing the necessary foundation courses. Acceptance into the Pre-M.B.A. program does not guarantee acceptance into the M.B.A. program.

**Admission Requirements for Pre-M.B.A.** All applicants must submit a Pre-M.B.A. application and an official transcript of all undergraduate programs attended. Applicants must have been awarded a baccalaureate degree from an accredited institution of higher learning, having achieved a minimum four-year grade point average of 2.5 (out of 4.0) or a 2.8 grade point average during the last 60 semester hours. The student may not receive less than a 2.80 grade point average in all foundation courses.

**Admission Requirements for M.B.A.** In addition to the University requirements for admission to a graduate program, the following requirements must be met:

1. The applicant shall provide the Graduate Management Admission Test (GMAT) score of at least 450, taken within the last five years.
2. If professional (relevant management or supervisory) experience is being used as a basis for support of the applicant's qualification, a letter must be written by the applicant's supervisor or by a responsible executive of the company describing the applicant's current position, responsibilities and length of service.
3. The applicant shall provide evidence of ability to use a computer for word processing and development of electronic spreadsheets. Acceptable evidence may include a college course transcript, CEU certificate, documents from the work site, or a personal written statement attesting to the proficiency attained.

4. The applicant shall provide a written statement of career objectives.
5. International applicants must complete an international graduate application.

All M.B.A. students must maintain a 3.0 GPA. Students are expected to make steady progress toward the completion of their degree. Full-time students may complete the degree requirements in 2 years. All students have a maximum of six years to complete the program.

### Foundation Course Requirements

*(Subject to approval by program director)*

**Pre-M.B.A. Requirements:** Students must present evidence of having completed undergraduate college courses equivalent to the Rowan courses listed below:

- Foundations of Accounting (Equivalent to Financial & Managerial Accounting)
- Principles of Economics: Global Perspectives (Equivalent to Macroeconomics and Microeconomics)
- Calculus Techniques and Applications (or an equivalent)
- Statistics I (or an equivalent)
- Principles of Marketing
- Operations Management
- Principles of Finance

### Course Requirements for M.B.A. Program

**Required Courses** **27 S.H.**

(All courses are 3 S.H. unless otherwise noted.)

0501.518	Integrative Managerial Skills
0503.500	Managerial Accounting
0504.500	Managerial Finance
0506.500	Organization Behavior
0506.501	Advanced Operations Management & Strategy
0506.502	International Business and Society
0509.500	Marketing Management
0702.500	Issues in Management Information Systems
0501.521	Integrative M.B.A. Seminar

### Business Electives

**9 S.H.**

Elective courses permit the M.B.A. student to tailor the program to special needs for career development. These elective courses can be focused in areas such as Accounting, Finance, Management, Marketing or MIS. Optional specializations are offered in Accounting, Finance, and Management. Students are also permitted to take related elective courses from other Rowan graduate programs, such as economics engineering, public relations, and school administration. Electives outside the Rowan M.B.A. program must have the approval of the M.B.A. director. Approved business elective courses include, but may not be limited to:

0501.600	Special Topics in Business Administration
0503.502	Advanced Managerial Accounting
0503.504	Seminar in Auditing
0503.509	Intermediate Financial Accounting
0503.510	Financial Statement Analysis
0504.512	Capital Budgeting
0504.516	Issues in Finance
0504.600	Investment/Portfolio Analysis
0506.501	Advanced Operations Management & Strategy
0506.503	Organization Development
0506.601	Strategic Planning for Operating Managers
0507.600	Business Forecasting
0509.600	International Marketing
0702.515	Electronic Commerce (Students may elect as many as two special topics courses.)

(Students may elect as many as three special topics courses.)

**Total**

**36 S.H.**

### Specializations

Specializations are provided for students who desire a concentrated area of study related to their career objectives. The student must take three courses in the subject area of that specialization:

**Accounting:** Choose three accounting courses (0503.###) from the approved electives.

**Finance:** Choose three finance courses (0504.###) from the approved electives.

**Management:** Choose three management courses (0506.###) from the approved electives.

Special Topics electives may be used as one of the three courses in the specialization when offered in the subject area of that specialization.

## M.S., Accounting

*NOTE: M.S. in Accounting program is on hold pending upon New Jersey State 150-credit hour requirement for the Certified Public Accounting examination, Certified Management Accounting examination, and the Certified Internal Auditor examination. No applications are being accepted.*

The description listed below describes the M.S. in Accounting program as it will be implemented to prepare students for year 2005 CPA examination.

The goal of the M.S. in Accounting program is to extend the financial/accounting education of qualified students with advanced study in each of the major areas in the accounting field. It will provide a broad background for careers in the public, corporate, government, and non-profit areas of accounting. The program will fulfill the 150 credit-hour requirement by the State of New Jersey for the Certified Public Accounting (CPA) examination as well as the Certified Management Accounting (CMA) examination and the Certified Internal Auditor (CIA) examination. Students may pursue either a full-time or a part-time course of study. Full-time students with an undergraduate accounting major should be able to complete the program within one calendar year.

Prospective students who have not met the required foundation courses may enroll in the pre-M.S. program while completing the necessary foundation courses. Acceptance into the Pre-M.S. program does not guarantee acceptance into the M.S. program.

### Admission Requirements for Pre-M.S.

Applicants who have not completed the required undergraduate foundation courses listed below may apply to a pre-M.S. in Accounting program by submitting a pre-M.S. application and official transcript(s) of all undergraduate programs attended. Pre-M.S. applicants must have been awarded a baccalaureate degree from an accredited institution of higher learning, having achieved a minimum four-year grade point average of 2.5 (out of 4.0) or a 2.80 grade point average during the last 60 semester hours. As the foundation courses are

completed, the cumulative grade point average for the last 60 hours of undergraduate courses may be recomputed with the inclusion of the grades received in the foundation courses. However, the student may not receive less than a 2.80 grade point average in all foundation courses.

### Admission Requirements for the M.S. in Accounting

#### A. Applicants with a Bachelor's Degree

In addition to the all-University requirements for admission to a graduate program, the following minimum requirements must be met:

1. Students entering the program after receiving a bachelor's degree from a four-year college or university must meet the foundation course requirements cited below and earn greater than 800 in the following formula:
 

$100 \times (\text{GPA on a 4.00 scale}) + \text{GMAT score}$  must be greater than 800.

  - a. Student must have earned a minimum of 2.5 (on a 4.0 scale) as an undergraduate.
  - b. Students must have scored at least 450 in the GMAT.
2. If professional (relevant accounting or financial) experience is being used as a basis for support of the applicant's qualification, a letter must be written by the applicant's supervisor or by a responsible executive of the company describing the applicant's current position, responsibilities, and length of service.
3. The applicant shall provide evidence of the ability to use a computer for word processing and development of electronic spreadsheets. Acceptable evidence may include a college course transcript, CEU certificate, documents from the work site, or a personal written statement attesting to proficiency attained.

Meeting the above criteria does not guarantee acceptance into the M.S. in Accounting program.

**B. Undergraduate Rowan University Students**

Students may apply for admission into the MS in Accounting program upon completion of their junior year at Rowan University. The student must meet the following requirements:

1. Be a matriculated student with a major in Accounting at Rowan University
2. Completed a minimum of 30 credits at Rowan University
3. Completed Intermediate Accounting I & II
4. Achieved a 3.0 GPA at the end of their junior year
5. Score at least 475 in the GMAT

With permission of the program advisor and the Dean of The Graduate School, admitted students may take one graduate course in their senior year, which will only be applied to the graduate degree.

**Foundation Course Requirements**

Completion of the graduate courses in the MS in Accounting program necessitates that students have a strong background in the fields of economics, management, business, law, marketing, mathematics, and accounting. To insure that students have this background and have the necessary pre-requisites to take the graduate MS courses, the undergraduate courses listed below are required of all applicants:

1. The following undergraduate economics and mathematics courses are required:  
 Macroeconomics  
 Microeconomics  
 Calculus  
 Statistics I and Statistics II
2. The following undergraduate management, law, and finance courses are required:  
 Principles of Management  
 or  
 Organizational Behavior  
 Principles of Marketing  
 Principles of Finance

Legal Environment of Business  
 Management or Accounting Information Systems

3. The following undergraduate accounting courses are required:

Principles of Financial Accounting  
 Principles of Managerial Accounting  
 (Foundations of Accounting can be substituted for both Principle courses)  
 Intermediate Accounting I  
 Intermediate Accounting II  
 Cost Accounting  
 Concepts in Federal Taxation

Many applicants to the M.S. program will have completed some (or all) of these foundation courses at the undergraduate level. Undergraduate foundation courses completed with a grade of C+ or better will be applied to meet the foundation requirements.

**Course Requirements for the M.S. in Accounting**

**Required Courses 24 S.H.**

(All courses are 3 S.H. unless otherwise noted.)

0503.507	Government and Not-for-Profit Accounting
0503.506	Advanced Domestic and International Accounting
0503.504	Seminar in Auditing
0503.503	Corporate and Partnership Taxes
0503.502	Advanced Managerial Accounting
0503.508	Seminar and Research in Accounting
0504.500	Managerial Finance and One of the following three finance courses may be taken as the finance elective:
0504.512	Capital Budgeting
0504.600	Investments/Portfolio Analysis
0504.516	Issues in Finance

**Business Electives 6 S.H.**

Elective courses permit the M.S. student to tailor the program to special needs for career development. Electives outside the Rowan Business program must have the approval of the M.S. program director.

**Total 30 S.H.**

# COLLEGE OF COMMUNICATION

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Graduate programs in the College of Communication offer students the opportunity to expand and hone their skills as writers and problem-solvers for the Information Age. With a mix of theoretically informed and practice-driven classes, students acquire important research and writing techniques that advance their professional and personal goals in an increasingly complex and diverse society.

The College of Communication graduate courses are designed to provide students with challenging and rewarding activities that enhance their professional development. The faculty in the College of Communication graduate programs is committed to produce an articulate and informed citizenry. Opportunities exist for graduate students to learn more about cutting-edge technology, the ethical practices of communication practitioners, as well as work with professional publications. In addition, numerous outreach programs provide students with practical application that relates to their courses of study.

Students who graduate from the College of Communication master's degree programs are leaders in the communication industry, attend doctoral or M.F.A. programs to further their studies, or become successful freelance authors and public relations practitioners.

## Programs Offered

The College of Communication offers two Master of Arts degree programs: Public Relations and Writing. Students can choose a specialized area within each of these programs, such as corporate public relations or school public relations in the Public Relations program and corporate communication, composition studies, or journalism/creative writing in the Writing program.

## M.A., Public Relations

Janice Rowan, Chair  
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### **Certificate of Graduate Study in Writing: Composition & Rhetoric**

Diane Penrod, Program Advisor  
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The major goals of this program are to:

1. enhance professionals' knowledge of contemporary issues and practices in composition and rhetoric
2. form a learning community of professionals and educators dedicated to improving their writing abilities
3. provide a forum in the tri-state area for an exchange of ideas about evolving standards and strategies in the field of writing

After completing this certificate program, students will be able to:

1. articulate the historical evolution of the field of composition and rhetoric since its inception
2. apply critical principles and theories in the field of composition and rhetoric to the writing experience

3. conduct advanced research in the field of composition and rhetoric using on-line and printed materials
4. participate actively in the assessment and review of current writing practices
5. understand and apply current technology in the writing process
6. initiate positive changes in writing curricula that reflect cutting-edge trends in composition and rhetoric.

**Requirements:**

0601.555	Writing for Electronic Communities
0601.549	Issues in Composition Studies
0601.556	Assessment of Writing

**Total** **9 S.H.**

## M.A., Public Relations

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M.A., Public Relations  
 Donald Bagin, Program Advisor  
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This program leads to a master’s degree in public relations. It will equip students to serve as a full-time or part-time director of communications and public relations for corporations, businesses, industries, schools, colleges, and non-profit organizations. It also enables the graduate to work in public relations and advertising firms.

Some graduates use the degree as a stepping stone to a doctorate in communications; others apply their skills in positions that require excellent writers or presenters. A number of graduates have become executive directors for non-profit organizations and others have become CEOs of small and large businesses because of their ability to work with and motivate people.

The program emphasizes real-world applications of the theories and techniques learned and features a modular approach, which allows students to take courses with varying credits, taught by full-time faculty and adjunct faculty practitioners who are experts in their fields.

### Admission Requirements

In addition to the all-University requirements for admission to a graduate program, it must be noted that students who succeed in this program need to write well. Therefore, candidates must submit writing samples and may be asked to complete a writing task when appearing for an admissions interview. While a high undergraduate GPA average and a high GRE verbal score speak well for the candidate, these things do not guarantee admission into the program. Prior to admission to Rowan, students need to have taken a course in publication layout and design. If not, the course must be taken before completing the program and does not count toward the 33 semester hours of the program.

### Course Requirements

Students should make their first course Public Relations Overview or School Public Relations. Either course will let students know if they might enjoy a career in this field and if they have the ability necessary to succeed in public relations. Two other courses that students should take early in the program are: Techniques in Communication and Introduction to Communication Research. The overview course and these two courses are required for enrollment in Seminar and Internship. Full-time students may take the Seminar and Internship at the same time as the previously listed courses. It is possible for full-time students to complete the degree requirements in a calendar year.

The Seminar must be taken in the fall-spring sequence. All of the courses are offered in the evening. To obtain a M.A. in PR, students must maintain a 3.0 GPA, pass a comprehensive exam, and write an approved thesis.

## Sequence of Courses

The following are suggested courses for either the corporate or educational track. If you are not a full-time student, do not sign up for Seminar or Internship prior to completing PR Overview or School PR, Techniques in Communication and Intro to Communication Research (Fall only). You must complete or be enrolled in Seminar to take the comprehensive exam. If you currently practice PR, you may be exempt from 3 of the required 6 s.h. of Internship.

### Basic Public Relations Core (required for both tracks) 21-24 S.H.

0601.551	Public Relations Overview* (Corporate) OR
0898.503	School Public Relations* (Educational)

*\*Take either course. DO NOT TAKE BOTH.*

0601.547	Techniques in Communication (3 s.h.)
0601.550	Introduction to Communication Research (3 s.h.)
0601.553	Grad Case Studies in Public Relations (1 s.h.)
0601.544	Public Relations Planning (2 s.h.)
0601.620	Seminar in Public Relations (6 s.h.)
0601.610	Internship in Public Relations (3-6 s.h.)

#### *Suggested Fall Semester - Corporate Track*

0601.551	PR Overview (3 s.h.)
0601.547	Techniques in Communication (3 s.h.)
0601.550	Intro to Communication Research (3 s.h.)
0601.620	Seminar (3 s.h.)
0601.610	Internship (3 s.h.)

#### *Suggested Spring Semester - Corporate Track*

0601.553	Case Studies (1 s.h.)
0601.544	PR Planning (2 s.h.)
0601.620	Seminar (3 s.h.)
0601.610	Internship (3 s.h.)
	Modules (3 s.h.)

#### *Suggested Summer Session - Corporate Track*

Modules (variable credit)

#### *Suggested Fall Semester - Educational Track*

0898.503	School PR (3 s.h.)
0601.547	Techniques in Communication (3 s.h.)
0601.550	Intro to Communication Research (3 s.h.)
0601.620	Seminar (3 s.h.)
0601.610	Internship (3 s.h.)

#### *Suggested Spring Semester - Educational Track*

0601.553	Case Studies (1 s.h.)
0601.544	PR Planning (2 s.h.)
0821.502	Foundations of Educational Policy Making (3 s.h.)
	Graduate Psychology course (3 s.h.)
	Modules (6 s.h.)

#### *Summer Session - Educational Track*

Modules (variable credit)

## Modules

Modules are mini-classes carrying less than three credits and meet only part of the semester. Modules focus on a specific topic and are .5 credits unless otherwise noted.

#### *Writing Modules*

0601.506	Newswriting
0601.507	Tightening Writing and Translating from Jargon to Comfortable Language
0601.508	Writing Effective Newsletter and Brochure Copy
0601.509	Writing Leads That Get Attention
0601.510	Writing Reports, Letters, and Memos
0601.511	Writing Speeches
0601.512	Interviewing Techniques and Research Organization
0601.513	Feature Writing
0601.514	Persuasive Writing

#### *Public Relations Modules*

0601.524	Fundraising and Development (1.5 s.h.)
0601.525	Making Effective Presentations
0601.526	Planning and Conducting Workshops and Conferences
0601.527	Planning and Conducting Special Events
0601.528	Communicating with Special Publics

0601.529	Using Advertising to Your Best Advantage
0601.530	Internal Communications in Organizations
0601.531	Media Planning and Buying
0601.532	Media Relations
0601.533	Crisis PR
0601.534	Small Group Communications
0601.535	Interpersonal Communications
0601.536	PR Law/Ethics (1 s.h.)
0601.537	Contemporary PR Challenges (1 s.h.)
0601.538	Legislative Liaison for PR Practitioners
0601.539	Client Relationships
0601.540	Marketing Communications
0601.541	Understanding and Writing Grant Proposals
0601.552	Organizational PR and Management (1.5 s.h.)

*Mass Media and Public Opinion Modules*

0699.521	How Media Affect Us (1 s.h.)
0699.522	How Opinions and Attitudes Are Formed and Changed: Persuasion Techniques (1 s.h.)
0699.523	How Polls and Surveys Work: How to Conduct Them (1 s.h.)

*Electronic Media Modules*

0601.516	Using Film in Public Relations
0601.517	Working with Radio and TV (1 s.h.)
0601.519	Using Audio/Visuals in Public Relations
0601.520	Preparing Effective Displays and Exhibits

## M.A., Writing

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The M.A. in Writing program is an interdisciplinary approach to written communication. All students in the program share four required courses before deciding on a specialization to follow.

Individuals who are seeking a graduate degree that concentrates solely on Composition Studies, Journalism, Creative Writing, or Communication Studies should consider applying to programs that specialize in those areas. The degree's emphasis is on application, but theories and techniques related to writing are also presented to offer students a solid background in writing for various audiences.

This program prepares students for teaching writing at the post-secondary level, for career advancement in journalism, for professional enrichment through creative writing or for careers in corporate communication. Some graduate students may use this degree in preparation for earning a doctorate in English, composition studies, creative writing, or communication and journalism.

### Admission Requirements

In addition to the University requirements for admission to graduate programs, all candidates must:

1. exhibit an interest in writing
2. submit an 8-10 page writing sample (materials of their choosing)
3. appear for an admissions interview at the discretion of the Graduate Program Advisor and the program's Admissions Committee.

Most applicants to the M.A. in Writing program will have an undergraduate degree or a strong background in English, communication, journalism, creative writing or rhetoric; however, graduates of other disciplines (such as business, the sciences, engineering, psychology, law, and education) are also encouraged to apply.



### Course Requirements

All students in the program take four required courses (Core I: Theories and Techniques for Writers, Core II: Research for Writers, and Seminar I and II) totaling 12 credit hours. Students spend an additional 12 credit hours pursuing personal interests in one of the following three areas of specialization: corporation communication, composition studies, or journalism and creative writing. Six hours of graduate study include an interdisciplinary component, which may be taken in any appropriate graduate program at Rowan University or at a different university. The remaining 3 credit hours are devoted to completing a thesis, portfolio of publishable works or major project to demonstrate student expertise in the area of specialization. The Thesis/Project component will be guided by the Graduate Program Advisor and each student's Thesis Advisor through the Seminar I and Seminar II courses.

*Note: Students interested in pursuing the teaching of writing at a two-year/community college should apply to the Master of Arts in Writing program at this time. For more information on this track, please contact the Graduate Program Advisor.*

### Sequence of Courses

Students are expected to complete the Core I and Core II requirements within the first 12 credit hours of the program. In addition, Core I should be taken before Core II. Core I is offered in the fall semesters. Core II is offered in the spring semesters. Seminar I should be taken in the spring before beginning the thesis or project. Seminar II should be taken the semester the student is working on his or her thesis or project.

### Course Offerings

(All courses carry 3 semester credit hours unless otherwise designated)

*Required courses (all students) 12 S.H.*

0601.554	Core I: Theories and Techniques for Writers
0601.559	Core II: Research for Writers
0601.561	Seminar I
0601.571	Seminar II

*Composition Studies Track 12 S.H.*

0601.546	Contemporary Rhetoric
0601.549	Issues in Composition Studies
0601.555	Writing for Electronic Communities
0601.556	Assessment of Writing
0601.560	Managerial Communication
0601.564	Information Architecture
0601.618	Special Topics (courses vary)
0601.560	Managerial Communication

*Creative Writing/Journalism Track 12 S.H.*

0601.557	Advanced Feature Writing for Print Media
0601.558	Advanced Fiction Workshop
0601.618	Special Topics (courses vary)
0602.505	Poetry Workshop
0602.510	Writing for Broadcast
0602.515	Literary Journalism
0602.520	Writing the Novel
0602.521	Writing the Nonfiction Book
0602.522	Nonfiction Workshop

*Interdisciplinary Component (Electives) 6 S.H.*

With the approval of the graduate program advisor, students may select courses from one of the tracks in the Master's program, from other Rowan graduate programs, or from approved graduate courses from another university to fulfill this requirement.

# COLLEGE OF EDUCATION

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The College of Education provides an intellectually rigorous and challenging environment for the professional preparation of leaders in education and selected health-related services. Built upon a liberal education, the programs in the College combine learning in diverse settings with personal and collective study that promotes professional achievement and personal fulfillment.

The overarching theme of the graduate programs in the College of Education is "Educator as Reflective Practitioner, Scholar, Leader." The goals of all programs are based on this theme. The graduate programs in the College of Education have been designed to integrate and address the following areas:

1. advocacy for education in a democracy
2. assessment
3. collaborative approaches to problem solving
4. communication skills
5. cutting-edge curriculum
6. a commitment to fulfill the educational needs of diverse populations
7. ethical practices in professional activities
8. application of effective research skills
9. integration of appropriate technology
10. application of theory in professional practice

## Master of Arts Basic Professional Component

All master of arts education programs require a component in basic professional study. These studies provide the student with a set of contexts for understanding educational problems at a broader level than required in initial preparatory programs. In most graduate programs, a minimum of one course in the research methods and educational statistics area. Additional choices are also available in basic curriculum study.

Basic professional component requirements vary among programs. Students are advised to consult individual program descriptions and/or program advisers for specific information.

## Research Methods and Educational Statistics

0824.501	Procedures & Evaluation in Research
0824.561	Statistics in Educational Research
2006.533	Tests & Measurement <b>or</b>
0825.516	Applied Tests & Measurement

## Historical, Philosophical, and Social Foundations

0821.502	Foundations of Educational Policy Making
0821.527	Historical and Philosophical Foundations of Education
0821.530	Foundations of Multi-Cultural Education

## Educational and Developmental Psychology

0822.510	Theories of Learning
0822.512	Educational Psychology
0822.586	Psychology of Motivation & Learning
2009.587	Adolescent Psychology
2009.511	Child Psychology
2009.589	Psychology of Human Relationships

# Programs Offered

## M.A., Elementary School Teaching

Louis Molinari, Program Advisor  
Robinson Hall  
856-256-4500 x3803  
molinari@rowan.edu

This program is designed for advanced study by elementary school teachers beyond the level that is required for initial certification. The program provides certified teachers with deeper insights into professional practice and fosters the acquisition of specialized knowledge and skills relating to teaching and learning in the elementary curricular areas.

There are five prescribed curriculum emphasis areas:

1. Instruction
2. Mathematics
3. Language arts
4. Computer education
5. Curriculum leadership

Each applicant is expected to choose one of the prescribed areas of curriculum emphasis or, with the help of the advisor, construct a specific, personalized emphasis such as Early Childhood education or Environmental Science education.

### Additional Admission Requirements

In addition to those minimum requirements listed by the University for admission to graduate study, this program has additional requirements:

1. Interview with the program advisor
2. A Standard Teaching Certificate in the appropriate field

### Course Requirements

- I. *Basic Professional Component* 6 S.H.  
Choose one course each from the Historical, Philosophical and Social Foundations bank and the Educational and Developmental Psychology bank. (Confer with program advisor.)

- II. *Elementary Core* 6 S.H.  
0802.511 Learning Community Classrooms  
0802.536 Elementary School Curriculum  
0802.550 Analysis of Classroom Teacher Behavior

- III. *Elective* 3 S.H.  
0823.510 Curriculum Development in Early Childhood Programs  
0830.554 Teaching Reading in the Elementary School

### IV. *Area of Emphasis - (Choose one area)*

INSTRUCTIONAL EMPHASIS 12 S.H.  
(Choose three from the following)

- 0802.511 Learning Community Classrooms  
0802.537 Contemporary Curriculum Processes/Social Studies  
0802.538 Contemporary Curriculum Processes/Science  
0802.539 Contemporary Curriculum Processes/Elementary Language Arts  
0802.540 Contemporary Curriculum Processes/Elementary Math  
0802.542 Linguistic Emphasis of Language Arts Teaching

1601.502 Survey of Children's Literature  
(Choose one from the following)

- 0833.530 Computer Asst. Instruction  
or  
Computing Education Elective (approval of advisor required)

ELEMENTARY MATHEMATICS EMPHASIS 12 S.H.

- 0802.540 Contemporary Curriculum Processes/Math  
0802.552 Piaget and Elementary School Mathematics  
0802.556 Principals of Identification and Treatment of Mathematic Deficiencies

(Choose one from the following)

- 0802.517 Clinical Experiences in Elementary School Mathematics  
0833.521 Instructional Computer Languages: LOGO  
1703.600 Topics in Elementary School Mathematics\*

*\*(This course and additional courses may be required if insufficient background is determined by advisor.)*

ELEM. LANGUAGE ARTS EMPHASIS 12 S.H.

(Choose three from the following)

- 0802.539 Contemporary Curriculum Processes/Language Arts
- 0802.551 Diagnostic Teaching and Evaluation of Basic Language Arts Skills
- 0802.542 Linguistic Emphasis of Language Arts Teaching
- 0833.525 Instructional Applications of Word Processing and Data Management
- 1601.502 Survey of Children's Literature

COMPUTER EDUCATION EMPHASIS 12 S.H.

- 0833.510 Computers and the Curriculum
- 0833.530 Computer Asst. Instruction
- 0833.574 Multimedia and Hypermedia for Teachers

(Choose one from the following)

- 0833.521 Instructional Computer Languages: LOGO
- Computing Education Elective  
(approval of advisor required)
- 0833.572 Special Topics: Internet in the Classroom
  - 0833.572 Special Topics: Desk Top Publishing in Educational Environment
  - 0833.572 Special Topics: Electronic Portfolio Assessment

CURRICULUM EMPHASIS 12 S.H.

- 0829.550 Public School Curriculum or
  - 0823.510 Curriculum Development in Early Childhood Programs
  - 0829.580 Fundamentals of Curriculum Development
  - 0829.547 Curriculum Theory
- (Choose one from the following)
- 0829.590 Curriculum Evaluation
  - 0828.546 Educational Organization and Leadership
  - 0833.510 Computers and Curriculum
  - 0802.511 Learning Community Classrooms

V. *Research and Seminar* 9 S.H.

(Choose one from the following)

- 0802.600 Seminar in Elementary Teaching
- 0802.601 Seminar in Elementary Teaching
- 0824.501 Procedures and Evaluation in Research (recommended)

0824.561 Statistics in Educational Research

2006.533 Tests and Measurements

**TOTAL**

**36 S.H.**

## **M.A., Educational Technology**

Louis Molinari, Program Advisor

Robinson Hall

856-256-4500 x3803

molinari@rowan.edu

The Master of Arts presents a cohesive set of courses and learning experiences that focus on current topics in the field of Educational Technology. It is designed for practicing teachers, as well as educational specialists who want to develop instructional and technical expertise in the field of educational technology. The program is designed to contribute to the continuing improvement of k-12 teachers and related personnel. It concentrates on the positive effects that technology will have on teaching and learning. The Master of Arts provides a theoretical and practical base for using educational technology to further the goals of education by promoting:

1. The development of skills through inquiry oriented activities using computers and other information technologies to collect, analyze and display information.
2. The art of interfacing people and technology in effective and creative ways emphasizing authentic problems and real tasks.
3. The use of technology to support and enhance teaching, learning and administration.
4. The critical examination of the impact of technology on education and culture.

The program will also attempt to meet the needs of non-teaching, certified professionals (e.g., school district resources and supervisory personnel) who wish to further their development in selected educational areas of Educational Technology.

This 36 semester hour program is offered by the College of Education through the Elementary / Early Childhood Department at Rowan University.

### Additional Admission Requirements

In addition to those minimum requirements listed by the University for admission to graduate study, this program has additional requirements:

1. Interview with program advisor
2. Standardized test
3. Teaching certificate or equivalent

### Course Requirements

#### I. Core Studies - 18 Semester Hours

FOUNDATIONS BANK	3 S.H.
0821.502 Foundations of Educational Policy Making	
PSYCHOLOGY BANK	3 S.H.
2006.540 Psychological Concepts of Human-Computer Interaction	
CURRICULUM BANK	3 S.H.
0833.510 Computers and the Curriculum	
RESEARCH METHODS AND SEMINAR	9 S.H.
0824.501 Procedures and Evaluation in Research	
0833.588 Research Seminar in Educational Technology I	
0833.589 Research Seminar in Educational Technology II	

#### II. Focus Area - 18 Semester Hours *Elementary/Secondary*

REQUIRED	12 S.H.
0808.540 Technology for Students with Special Needs	
0821.540 Computers and Related Technology in the Secondary Classroom or	
0833.583 Computers and Related Technology in the Elementary Classroom	
0833.580 Introduction to Educational Technology	
0833.574 Multimedia/Hypermedia for Teachers	
CHOOSE ANY TWO ELECTIVES FROM THE FOLLOWING	6 S.H.
0601.550 Writing for Electronic Communities	
0701.560 Computing Environments in Education	

0833.521 Instructional Computer Languages: Logo	
0833.560 Instructional Applications of Word Processing and Data Management	
0833.572 Special Topics in Educational Computing	
1011.540 Still & Video Photography for Educators	
0833.584 Desktop Publishing in the Educational Environment	
0833.585 Internet in the Classroom	
0833.587 New Directions in Educational Technology	

**TOTAL**

**36 S.H.**

### M.A., Environmental Education and Conservation

Gary Patterson, Program Advisor  
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The public schools, agencies and institutions of New Jersey responded to the need to prepare environmentally informed citizens by promoting and requiring programs in environmental education and conservation. Interest in environmental quality has focused society's attention on the development of ecologically sound knowledge and environmentally concerned attitudes.

The demand for personnel with skills in this area has grown with the increasing federal, state and local support of environmental programs. Recent federal and state laws mandating specific environmental curricula for public schools and the general public have opened new career opportunities to those with the appropriate training.

The student in environmental education brings together knowledge, processes and perspectives from various departments and disciplines. This interdisciplinary approach helps to prepare students to address environmental problems and the development of environmental education programs.

### Additional Admission Requirements

In addition to the requirements of the University for admission to graduate study, this program requires an interview with the program advisor. New Jersey state teacher certification is not a requirement for admission to this program.

## Course Requirements

- I. Basic Professional Component 6 S.H.*
- 0824.501 Procedures in Evaluation and Research  
Choice from Professional Bank in consultation with advisor
- II. Required Core Courses 18 S.H.*
- 0896.501 Introduction to Environmental Education  
0896.503 Developing Curriculum Guides and Materials for Environmental Education Programs  
0896.505 Environmental Conservation Workshop  
0896.515 Environmental Issues and Actions  
0896.600 Environmental Education Seminar I  
0896.601 Environmental Education Seminar II
- III. Specialization/Electives 12 S.H.*
- 0896.502 Trends in Environmental Education Programs  
0896.506 Practicum in Marine Environments  
0896.507 Practicum in Woodland Environments  
0896.508 Practicum in Urban Environments  
0896.509 Environmental Land Use Resources and Recreation and/or
- Other environmental/leadership courses offered in Biological Sciences, Chemistry, Engineering, Economics, Communication, and Business Administration may be considered after consultation with program advisor.

**TOTAL**

**36 S.H.**

## M.A., Higher Education

Burton R. Sisco, Advisor  
Robinson Hall  
856-256-4500 x 3717  
sisco@rowan.edu

This program has two tracks: (1) administration and (2) instruction. The administration track is intended to serve individuals employed in a higher education setting who wish to increase their knowledge and skills as well as those who seek an entry level position in a two year or four year college or university.

Full-time students in the administration track may complete the program in two years, excluding summers, by following a highly sequenced pattern of course enrollments. Part-time students may also enroll in the administration track and will be advised regarding the sequencing of courses in order to complete the program in four years or less. The administration track consists of twelve courses (36 s. h.) of course work.

The instructional track is intended to serve those individuals who seek adjunct or full-time instructor positions primarily at a two-year college, in the following selected disciplines: reading, mathematics, computer science, and English as a Second Language (ESL). Limited opportunities to pursue specializations in biology or chemistry and physics are also available, and individuals who are interested in pursuing these opportunities must discuss them with the program advisor. Depending on the selected specialization, the instructional track consists of 31-37 semester hours of course work, including a one-semester instructional internship.

## Admission Requirement

In addition to the University requirements for admission to a graduate program, a personal interview may be required.

## Graduation Requirements

As part of the requirements for the award of the master's degree, students must complete a research project on a topic approved by the program advisor. Students in the administration track are required to complete a two-semester 300 clock-hour clinical experience (150 clock hours each semester) within the courses, Seminar/Internship in Higher Education

Administration I and II. Students in the instructional track are required to pass a comprehensive examination in the teaching specialization area as well as a one-semester clinical experience in the course entitled, Seminar/Internship in Higher Education Instruction.

**Advising**

The academic advisors for the administration and teaching specializations are:

Administration/Instruction	Dr. Burton Sisco
Computer Science	Dr. Jennifer Kay
English as a Second Language (ESL)	Dr. Jacqueline Benevento
Mathematics	Dr. Marcus Wright
Reading	Dr. Cindi Hasit

Matriculated students must consult with their academic advisor before selecting specialization courses. A list of courses prescribed by the academic advisor must be given to the program coordinator for placement in the student’s program folder.

**Course Requirements**

*Administration Component*

REQUIRED CORE COURSES

Students are required to enroll in all five (5) of the following required core courses:

0806.605	Higher Education in America
0824.501	Procedures and Evaluation in Research
0827.620	Legal Issues in Higher Education
0827.637	Higher Education Administration
0827.737	The College Student: Issues and Support Programs

RESTRICTED ELECTIVE COURSES

Students must select a minimum of three (3) courses from the following bank of restricted elective courses:

0506.503	Organization Development
0601.551	Public Relations Overview
0806.606	Selected Topics in Higher Education
0821.530	Foundations of Multi-Cultural Education
0824.503	Quantitative Analysis in Educational Research
0824.707	Applied Analysis for Educational Leadership
0824.709	Issues in Survey Research
0826.509	Group Counseling in Student Personnel Services

0826.526	Individual Counseling Procedures
0826.582	Career Counseling and Development
0827.621	Student Services in Higher Education
0827.623	Planning and Resource Allocation in Higher Education
0827.625	Change in Higher Education
0827.741	Current Issues in Higher Education
0827.742	The Curriculum of Higher Education
0827.746	Higher Education Governance
0827.749	Human Resource Development
0828.706	Diversity and Educational Leadership
0829.503	Teaching Adult Learners
2005.623	Social Psychology

Students may also select courses from the College of Communication that are offered in modular format, including:

0601.511	Writing Speeches (0.5 s.h.)
0601.517	Working with Radio and TV (1.5 s.h.)
0601.524	Fundraising and Development (1.5 s.h.)
0601.530	Internal Communications in Organizations (0.5 s.h.)
0601.532	Media Relations (0.5 s.h.)
0601.533	Crisis Public Relations (0.5 s.h.)
0601.536	Public Relations Law and Ethics (1.0 s.h.)
0601.538	Legislative Liaison for Public Relations Practitioners (0.5 s.h.)
0601.540	Marketing Communication (0.5 s.h.)

RELATED ELECTIVE COURSES

Students may select a total of six (6) semester hours of free, related graduate elective courses. These courses must receive the prior approval of the program advisor.

CAPSTONE REQUIREMENTS

Students are required to enroll in the following two (2) capstone courses:

0827.628	Seminar/Internship in Higher Education Administration I *
0827.629	Seminar/Internship in Higher Education Administration II*

*\* includes master’s thesis or major action research report*

**Total (minimum) 36 credits**

*Instructional Component*

PROFESSIONAL PREPARATION 13 CREDITS

- 0806.603 Seminar/Internship in Higher Education Instruction \*
- 0806.605 Higher Education in America
- 0824.501 Procedures & Evaluation in Research
- 0829.503 Teaching Adult Learners

PROFESSIONAL/ACADEMIC SPECIALIZATION 18-24 S.H.  
 Students wishing to matriculate in the teaching specializations of mathematics, computer science, or in a teaching specialization in one of the hard sciences, must possess the corresponding baccalaureate degree.

Within the scope of the academic specialization, students must undertake a major research or thesis project and pass a comprehensive examination.

**Total 31-37 S.H.**

*\* The Seminar/Internship in Higher Education Instruction must be taken in the student's final semester.*

## M.A., Learning Disabilities

Sharon Davis-Bianco, Program Advisor  
 Robinson Hall  
 856-256-4500 x3796  
 bianco@rowan.edu

The Master's degree in Learning Disabilities is an innovative program which provides motivated teachers with the knowledge and skills needed to meet the multitude of challenges found in both regular and special education classrooms. All three tracks in the program, each with a specific focus, are designed to prepare classroom teachers to meet the needs of children with learning disabilities. Collaborative clinically-based and field-based experiences are included in each track. This program is nationally accredited (NCATE and CEC).

### Track I

Track I is for students who wish to attain an advanced degree that will enable them to better meet the needs of individuals experiencing learning difficulties in a regular or special classroom setting. It may also lead to the Teacher of the Disabled endorsement issued by the State of New Jersey.

### Track II

Track II is designed to prepare candidates for the Learning Disabilities Teacher/Consultant certification. Students in this track work in collaboration with other members of a child study team.

### Track III

Track III is designed for graduate students who wish to facilitate learning for young children with developmental delays and disabilities.

### Additional Admission Requirements

In addition to those minimum requirements listed by the University for admission to graduate study, this program has the following requirements:

1. A New Jersey standard teaching certificate
2. Evidence of effective teaching experience (Tracks I and III, one year; Track II, two years)
3. Program committee interview
4. Writing sample (completed at interview)

### Course Requirements

#### Track I

- |  |          |
|--|----------|
| I. BASIC PROFESSIONAL COMPONENT                                | 6-9 S.H. |
| Required (1 only)  |          |
| 0821.502 Foundations of Educational Policymaking               |          |
| 0821.527 Historical and Philosophical Foundations of Education |          |
| 0821.530 Foundations of Multicultural Education                |          |
| Elective Choices   |          |
| 0829.580 Fundamentals of Curriculum Development                |          |
| 2006.533 Tests and Measurements                                |          |
| or   |          |
| 0825.516 Applied Tests and Measurement                         |          |
| 0822.512 Educational Psychology                                |          |
| 0824.501 Procedures and Evaluation in Research                 |          |
| 0822.586 Psychology of Motivation and Learning                 |          |
| 0822.510 Theories of Learning                                  |          |



COLLEGE OF EDUCATION

II. SPECIALIZATION	21-24 S.H.	III. SEMINAR AND RESEARCH	6 S.H.
0808.555 Education and Psychology of Exceptional Learners		0818.600-601 Seminar in Learning Disabilities I and II	
0818.520 Neurological Bases of Educational Disorders		IV. ELECTIVES (PREDETERMINED)	6 S.H.
0818.503 Foundations of Learning Disabilities		<b>TOTAL</b>	<b>42 S.H.</b>
0818.504 Assessment of Learning Disabilities (Fall only)		<i>Track III</i>	
0818.505 Correction of Learning Disabilities (Spring only)		I. BASIC PROFESSIONAL COMPONENT	6-9 S.H.
0818.650 Clinical Experience in Learning Disabilities*		Required (1 only):	
		0821.502 Foundations of Educational Policymaking	
		0821.527 Historical and Philosophical Foundations of Education	
		0821.530 Foundations of Multicultural Education	
		Other Choices:	
III. SEMINAR AND RESEARCH	6 S.H.	0829.580 Fundamentals of Curriculum Development	
0818.600-601 Seminars in Learning Disabilities I and II		2006.533 Tests and Measurements	
IV. ELECTIVES	0-6 S.H.	or	
(as approved by advisor)		0825.516 Applied Tests and Measurements	
		0822.512 Educational Psychology	
		0824.501 Procedures and Evaluation in Research	
		0822.586 Psychology of Motivation and Learning	

**TOTAL 36-42 S.H.**

*Track II*

This track requires a letter from applicant's principal or supervisor attesting to a minimum of two years of effective teaching experience by the applicant.

I. BASIC PROFESSIONAL COMPONENT	9 S.H.	II. SPECIALIZATION	21-24 S.H.
Required:		0808.555 Education & Psychology of Exceptional Learners	
0821.530 Foundations of Multicultural Education		0818.540 Motor Development in Young Children with Disabilities	
0825.516 Applied Tests and Measurements		2010.625 Physiological Psychology	
0822.586 Psychology of Motivation and Learning		or	
or		0818.520 Neurological Bases of Educational Disorders	
0822.510 Theories of Learning		0818.550 Foundations of Early Childhood/Special Education	
II. SPECIALIZATION	21 S.H.	0818.545 Language Development in Young Children with Disabilities	
0808.555 Education & Psychology of Exceptional Learners		2006.631 Testing of the Preschool Child	
0818.520 Neurological Bases of Educational Disorders		0818.650 Clinical Experience in Learning Disability*	
0818.503 Foundations of Learning Disabilities		III. SEMINAR AND RESEARCH	6 S.H.
0818.504 Assessment of Learning Disabilities (Fall only)		0818.600 Seminar in Learning Disabilities I	
0818.505 Correction of Learning Disabilities (Spring only)		0818.601 Seminar in Learning Disabilities II	
0818.650 Clinical Experience in Learning Disabilities*		IV. ELECTIVES	6 S.H.

**TOTAL 36-42 S.H.**

*\*matriculated students only and permission of advisor required*

## **Learning Disabilities Teacher/Consultant Certification**

Sharon Davis-Bianco, Program Advisor  
Robinson Hall  
856-256-4500 x3796  
bianco@rowan.edu

Students who have already completed a master's degree in Learning Disabilities or a related field may apply for admission to the program leading to certification as a Learning Disabilities Teacher/Consultant. The departmental admissions committee will determine the appropriateness of the applicant's master's degree if in a related area. An individual transcript analysis will determine courses necessary for the certificate.

Admission requirements to this certificate program are the same as the admission requirements for the master's degree in Learning Disabilities, except the GRE test is not required.

## **M.S., Teaching**

Marianne B. Cinaglia, Program Advisor  
Robinson Hall  
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cinaglia@rowan.edu

This Master of Science in Teaching (M.S.T.) 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, with the appropriate undergraduate program, as certified elementary, secondary or special education teachers. Students whose undergraduate degree is in a professional or technical area may need to take as many as 30 additional undergraduate credits 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 secondary program is presently designed for prospective social studies, English, mathematics, foreign language (Spanish and French) and science teachers. The elementary program is designed to prepare prospective teachers for nursery school through grade eight teaching in self-contained classrooms. The special education program prepares teachers of the handicapped (K-12).

The M.S.T. program is both a cognitive and clinical program. The cognitive program is comprised of courses that offer the knowledge and skills necessary for beginning teachers. The clinical component is a supervised observation and internship sequence in public school classroom. The M.S.T. students form and function throughout the program as a cohort group.

The M.S.T. program is presently offered as a full-time program only. The program cycle includes four consecutive terms beginning with a summer term and concluding after a second summer term. This graduate program requires admission for the summer term. The M.S.T. program has an early admissions deadline of November 15. The M.S.T. spring application deadline to submit all materials, including relevant test scores, is April 1st. Applicants applying for early admission must have an overall grade point average of 2.75 or higher. No applicant with an overall grade point average below 2.50 will be considered for admission. The M.S.T. program has a limited enrollment, contact the program advisor for further information concerning the available number of admissions into each track.

## **Additional Admission Requirements**

In addition to those minimum requirements of the University for admission to graduate study, this program requires:

1. A baccalaureate or master's degree in the arts and sciences discipline relevant to the area of prospective teacher certification, which is a New Jersey Department of Education and certification approved major or coherent academic sequence. Students without the appropriate field of study may have to complete undergraduate courses prior to being eligible for admission into the graduate program.
2. Meeting the minimum New Jersey passing score (s) on the PRAXIS II Examination for the appropriate certification area. Applicants for the special education program must meet the PRAXIS II requirements set by New Jersey for elementary certification (contact the program advisor for further information).
3. Three or fewer pre-requisites to be taken concurrently with the M.S.T. program.

COLLEGE OF EDUCATION

4. Submission of Graduate Record Examination general test scores. GRE is waived for those applicants holding a graduate degree.
5. Two recommendations which relate the applicant's interpersonal, academic and communication skills.

*M.S.T. in Special Education Course Sequence*

SUMMER I		15 S.H.
0822.507*	Development and Learning	
0808.555*	Education and Psychology of Exceptional Learners	
0826.597*	Relations of the Public Schools with	

	the Institutions and Agencies of New Jersey	
0830.520	Teaching Reading in the Content Areas	
0808.515	Curriculum & Instruction in Special Education	

FALL		17 S.H.
0801.601*	Clinical Internship I	
0801.603*	Clinical Seminar I	
0824.565*	Analysis & Application of Research	
0824.502	Initiation of Internship Project	
0829.580*	Fundamentals of Curriculum Development	
0810.581*	Teaching Strategies for Managing the Behavior of the Handicapped	

SPRING		15 S.H.
0801.605*	Clinical Internship II	
0801.607*	Clinical Seminar II	
0824.602	Development of Internship Project	
0810.585*	Educational Assessment in Special Education	
0830.569*	Teaching Reading to Exceptional Children	

SUMMER II		7 S.H.
0821.527	Historical & Philosophical Foundations of Education	
0824.608	Internship Project Report	
0821.504	Foundations of Cross Cultural Education	

**Course Requirements**

*M.S.T. in Elementary/Secondary Course Sequence*

SUMMER I		12 S.H.
0829.515*	Introduction to Teaching and Planning (Secondary)	

	or	
0829.515*	Introduction to Teaching and Planning (Elementary)	

0830.510*	Teaching Elementary Reading	
	or	
0830.520*	Teaching Reading in the Content Areas (Secondary)	

0827.572	School Law and Public Policy	
0822.507*	Development and Learning	

FALL		14 S.H.
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0801.601*	Clinical Internship I	
0801.603*	Clinical Seminar I	
0824.565*	Analysis and Application of Research	

0824.502	Initiation of Internship Project	
0829.580*	Fundamentals of Curriculum Development	

SPRING		12 S.H.
0801.605*	Clinical Internship II	
0801.607*	Clinical Seminar II	
0824.602	Development of Internship Project	

Advanced Academic Study

SUMMER II		10 S.H.
0821.504	Foundations of Cross Cultural Education	

0824.608	Internship Project Report	
0825.516	Applied Tests and Measurements	
0821.527	Historical and Philosophical Foundations of Education	

*\*Teacher certification courses*

*Must have at least a B (3.0) average in certification courses*

*Must have at least a B in both Clinic I and II*

**TOTAL 54 S.H.**

*\*Teacher certification courses*

*Must have at least a B average in certification courses*

*Must have at least B average in Clinic I and II*

**TOTAL 48 S.H.**

*M.S.T. in Collaborative Teaching  
(Co-Teach)*

Co-Teach is a five-year program that combines undergraduate preparation in education and liberal arts with graduate study that leads to certification in elementary and special education. Students must apply for admission to the certification program at the end of the sophomore year. This requires an overall grade point average (GPA) of 2.5, a professional GPA of 3.0 and qualifying scores on the Praxis I. To complete the five-year program, students must apply to The Graduate School at the end of their fourth year for admission into the Collaborative Teaching track of the Masters of Science in Teaching program. Students must have maintained an overall GPA of 2.75 and a professional GPA of 3.0. Also the appropriate scores on; the Praxis II exam and the Graduate Record Exam (GRE) must be attained. (The GRE exam will be waived for students who maintain a GPA of 3.5 or better.

SUMMER I		9 S.H.
0826.597*	Relations of the Public Schools with the Institutions and Agencies of New Jersey	
0827.572	School Law and Public Policy	
0821,504	Foundations of Cross Cultural Education	
FALL		12 S.H.
0801.601*	Clinical Internship I	
0801.603*	Clinical Seminar I	
0810.581*	Teaching Strategies for Managing the Behavior of the Handicapped	
0824.565*	Analysis and Application of Research	
0824.502	Initiation of Internship Project	
SPRING		12 S.H.
0801.605*	Clinical Internship II	
0801.607*	Clinical Seminar II	
0824,502	Development of Internship Project	
0830.569*	Teaching Reading to Exceptional Children	
SUMMER II		2 S.H.
0824.608	Internship Project Report	

*\*Teacher certification courses*

**TOTAL** **36 S.H.**

**M.A., Reading Education**

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hasit@rowan.edu

The Master of Arts in Reading Education is nationally accredited by the National Council for Accreditation in Teacher Education in conjunction with the International Reading 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 of students in classroom and clinical environments. Acceptance into the program is competitive. Completion of the established program of studies leads to a Master of Arts degree in Reading Education. Upon completion of the program, the student will have fulfilled the academic requirements for State of New Jersey certification as a reading specialist. If the student has fulfilled all other non-academic state certification and experience requirements, the student is eligible for certification as a K-12 reading specialist at the time of graduation.

The course of studies provides students with an understanding of the basic principles of developmental and content area reading instruction. Students acquire advanced knowledge of the reading process. They engage in hands-on experiences in diagnosing and teaching learners who are experiencing difficulty with literacy acquisition. Students learn procedures for administering reading programs in elementary, secondary, and post-secondary schools. In their course work and reading seminar experiences, students read and interpret current reading research and develop expertise in applying relevant findings to classroom instruction and engaging in action research.

**Unique Features**

The Department of Reading maintains a highly regarded public reading clinic which provides diagnostic and remedial services to children and adults. While enrolled in the course, Clinical Experiences in Reading, students are required to engage in closely supervised tutoring of clients attending the clinic. Departmental faculty develop a collegial relationship with students in the program and actively encourage and promote their professional growth and development. The faculty

assist students in publishing their work, help them present their ideas at conferences, and encourage them to take leadership roles in local reading councils. Graduates have successfully completed doctoral programs at major universities. The faculty work very closely with special educators in order to prepare reading specialists who are capable of addressing the literacy needs of special learners.

### Additional Admission Requirements

In addition to the University graduate admissions requirements, as part of the initial application procedure, all applicants are required to schedule an appointment with the program advisor in order to discuss the program and certification requirements. Any Rowan graduate student who is matriculated in another program and is considering making a transfer request into the Reading Education program is also required to schedule a pre-transfer appointment with the Reading Education program advisor.

The objective of the Reading program is to graduate highly knowledgeable and skilled students who, upon graduation, are immediately certifiable as reading specialists. The State of New Jersey requires a minimum of two years full-time classroom teaching experience. Therefore, in addition to the requirements for graduate admission to the University, the preferred applicant holds a permanent teaching certification and has had a minimum of two years classroom experience as the classroom teacher in charge.

An on-site writing sample may be required prior to admissions consideration.

Acceptance decisions are made three times a year, in October, March, and July. The course sequence and prerequisites prevent full-time students from completing the program in one year.

### Additional Graduation Requirements

Students in the program will be recommended for graduation if they have a minimum of a 3.0 average in the specialization courses and a passing grade on the departmental comprehensive examination.

### Course Requirements

Students may take the courses in the Basic Professional and Restricted Elective areas at any time. These courses do not have prerequisites. Students must adhere to the proper course sequence in the Specialization area.

#### *I. Basic Professional Component 6 S.H.* (Students should check with advisor.)

(Choose one from the following)

0821.502 Foundations of Educational Policy Making

0821.530 Foundations of Multi-Cultural Education

0821.527 Historical and Philosophical Foundations of Education

(Choose one from the following)

0822.512 Educational Psychology

0822.586 Psychology of Motivation and Learning

2009.587 Adolescent Psychology

2009.511 Child Psychology (recommended)

2009.589 Psychology of Human Relationships

#### *II. Specialization 25 S.H.*

The following courses may be taken before matriculation into the Reading Education program.

0830.510 Teaching Reading in Elementary Schools

0830.520 Teaching Reading in Content Areas

0830.540 Administration and Supervision of Reading Programs

1601.502 Survey of Children's Literature or

1601.503 Survey of Young Adult Literature

The following course sequence requires matriculated status in the Reading Education program. In addition, 0830.510 and 0830.520 must have been completed with a minimum grade of B (3.0). The courses must be completed in the listed sequence.

0830.550 Diagnosis of Remedial Reading Problems

0830.560 Treatment of Reading Problems

0830.570 Clinical Experiences in Reading

0830.600 Seminar & Research in Reading

Prior to enrollment in 0830.600, the student must successfully complete the departmental comprehensive examination.

#### *III. Restricted Electives 3 S.H.*

(Select one course)

0818.503 Foundations of Learning Disabilities

0828.522 Educational Supervision

0828.546 Educational Organization and Leadership

- 0828.598 Observational Skills for Supervisors
- 0830.530 Teaching Reading to the Exceptional Child
- 0830.535 Word Study: Phonics, Spelling, and Vocabulary Instruction
- 0830.552 Workshop in Reading
- 0833.504 Instructional Applications of Computers
- 2006.533 Tests & Measurements  
or
- 0825.516 Applied Tests and Measurements

**TOTAL**

**34 S.H.**

### **Certification Program**

A non-degree program of graduate courses leading to reading specialist certification is available to teachers who meet regular M.A. in Reading Education program criteria and State of New Jersey requirements.

State requirements for this certificate are:

1. A standard (not provisional) New Jersey instructional certificate
2. Two years of successful teaching experience
3. Completion of 30 semester hours of graduate courses selected in consultation with the graduate advisor

Courses required for the reading specialist certificate must be taken in the following areas:

- a. Elem./Secondary Reading Foundations
- b. Diagnosis of Reading Problems
- c. Correction of Reading Problems
- d. Clinical Practicum in Reading

In addition, students need courses in at least three of these areas:

- a. Children's Literature
- b. Psychology
- c. Organization of Reading Programs
- d. Supervision
- e. Linguistics
- f. Measurement

If fewer than 20 credits are needed for certification requirements, the student is not eligible for a

Rowan University certification endorsement and must file directly with the State Department of Education for certification.

### **M.A., School Administration (Principal Preparation Track)**

Ronald Capasso, Coordinator  
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capasso@rowan.edu

Graduate study in school administration is designed to serve the individual who aspires to become a leader in educational institutions. The aim of the program is to provide the student with an opportunity to learn the diagnostic and prescriptive skills necessary to function as a contributing member of an administrative team servicing public and private educational institutions. The program is available for practicing educators who meet all admission requirements.

The master's degree program meets course requirements established by the New Jersey Department of Education for state certification as a public school administrator in positions such as principal, vice-principal, assistant superintendent of schools, department chairman, director and coordinator. In order to receive a Certificate of Eligibility (CE) for the school administrator certificate with a principal endorsement, students must also successfully complete the Praxis Test in educational leadership. Certification is awarded by the state Department of Education. Matriculated students apply for the Certificate of Eligibility (CE) through the Office of the Dean of the College of Education at Rowan after completing all program requirements.

### **Additional Admission Requirements**

In addition to minimum requirements of the University, this program has special requirements:

1. An interview with and a positive recommendation from the program coordinator
2. An expository writing sample as part of the admissions process

*Note:*

*Students may accumulate up to 9 s.h. as non-matriculated students before matriculating into this program. Of that 9 s.h., 3 s.h. must be*

taken in *Procedures and Evaluation in Research (0824.501)* with the remaining 6 s.h. selected from courses in the basic professional area of the program.

### Additional Graduation Requirements

1. Candidates must pass the Educational Leadership: Administration and Supervision section of Praxis II.
2. Candidates must complete a two-semester, 300 clock hour field experience included within the Practicum/Seminar courses and write an action research thesis related to that field experience under the guidance and approval of the clinical professor.

### Course Requirements

- I. *Basic Professional Component (Required)* 9 S.H.
  - 0824.501 Procedures and Evaluation in Research (B)
  - 0821.502 Foundations of Educational Policy (A)
  - 0829.580 Fundamentals of Curriculum Development (A,E)
- II. *Specialization Area* 26 S.H.
  - 0828.546 Educational Organization and Leadership (C)
  - 0828.503 Leading the Learner Centered School
  - 0827.535 School Finance and Records
  - 0827.559 School Law for Administration and Supervision
  - 0827.632 Computer Technology in Educational Leadership
  - 0827.521 The Principalship
  - 0827.580 Research Proposal Development\*
  - 0827.600 Practicum and Seminar in Administration and Supervision I\*(D)
  - 0827.601 Practicum and Seminar in Administration and Supervision II\*(D)

*\*Prior to enrolling in the sequence of Seminar and Practicum I & II courses, all students must complete the PRAXIS Test in educational leadership and submit scores and item analysis reports to the Educational Leadership Department. There is a minimum score required by the state in order to be eligible for the Provisional Principal Certificate.*

*Students should consult state requirements for the current score required at the time of their application for certification in order to determine their eligibility.*

- III. *Restricted elective* 3 S.H.
  - Students intending to matriculate concurrently in the supervisor certification program must use their restricted elective for a course in either curriculum to be eligible for the supervisor certificate in conjunction with their degree program in School Administration. Students may select from the following with advisor approval:
    - 0802.536 Elementary School Curriculum (F)
    - 0808.515 Curriculum and Instruction in Special Education
    - 0828.505 Selected Topics in Educational Leadership
    - 0829.547 Curriculum Theory (A)
    - 0829.550 Public School Curriculum K-12 (A)
    - 0833.510 Computers & the Curriculum (F)

**TOTAL** **38 S.H.**

- (A) *This course is offered by the Secondary Education/Foundations of Education Department*
- (B) *This course is to be taken during the first 9 s.h.*
- (C) *This course is a prerequisite for all courses in Educational Leadership and must be taken during the first 12 s.h. of coursework.*
- (D) *To be scheduled during the last academic year preceding graduation. Approval of the program coordinator is required. All other coursework requirements must be completed prior to beginning the Practicum/Seminar I.*
- (E) *This course is required as a prerequisite for The Principalship (0827.521)*
- (F) *This course is offered by the Elementary/Early Childhood Education Department*

## M.A., School Administration (School Business Administration Track)

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monahan@rowan.edu

The M.A. in school administration (school business administration track) program meets the course requirements established by the New Jersey Department of Education for state certification as a school business administrator in New Jersey.

In order for students to receive a Certificate of Eligibility (CE) for the certificate, they must successfully complete the PRAXIS in Educational Leadership. Certification is awarded by the State Department of Education. Matriculated students apply for the Certificate of Eligibility (CE) through the Office of the Dean of the College of Education at Rowan upon completion of the program requirements, including the required action research thesis.

### Additional Admission Requirements

In addition to minimum requirements listed by the University for admission to graduate study, this program has special requirements:

1. An interview with a positive recommendation from the program advisor, based upon University and department admissions standards
2. Evidence of appropriate academic preparation for the school business administrator's Certificate of Eligibility (CE). To be eligible for this CE, candidates must demonstrate a minimum of 18 credits of undergraduate or graduate study in economics, law, accounting, organizational theory, management or administration, and finance.

Note:

Students are permitted to accumulate up to 9 s.h. as non-matriculated students before matriculating into this program. The 9 s.h. must consist of the following courses:

Procedures and Evaluation in Research (0824.501), Foundations of Education (0821.502), and Educational Organization and Leadership (0828.546). Students must be admitted to the program in order to take additional courses applicable to the program.

### Additional Graduation Requirements

1. Students must pass the Educational Leadership: Administration and Supervision section of Praxis II.
2. A student must complete a two-semester, 300 clock hour field experience included within the Practicum/Seminar I & II courses and write an action research thesis related to that field experience under the guidance and approval of the clinical professor.

### Course Requirements

- |   |  |               |
|---|--|---------------|
| <i>I. Basic Professional Component</i>            |  |               |
|   | <i>(Required)</i>  | <i>6 S.H.</i> |
| 0821.502  | Foundations of Education Policy (A)                          |               |
| 0824.501  | Procedures and Evaluation in Research (B)                    |               |
| <i>II. Specialization Area (Required) 32 S.H.</i> |  |               |
| 0828.546  | Educational Organization & Leadership (B)                    |               |
| 0827.534  | School Plant Planning and Management                         |               |
| 0827.535  | School Finance and Records                                   |               |
| 0827.536  | Financial Accounting for School Systems                      |               |
| 0827.538  | School Business Management                                   |               |
| 0827.559  | School Law for Administration and Supervision                |               |
| 0827.632  | Computer Technology in Educational Administration            |               |
| 0827.610  | Employer/Employee Relations                                  |               |
| 0827.580  | Research Proposal Development                                |               |
| 0827.600  | Practicum and Seminar I in Administration & Supervision      |               |
| 0827.601  | Practicum and Seminar II in Administration & Supervision (C) |               |

**Total**

**38 S.H.**



- A. This course is offered by the Secondary Education/Foundations of Education Department.
- B. This course is a prerequisite for all courses in the required academic core in educational leadership and must be taken during the first 9 s.h.
- C. To be scheduled during the last academic year semester of coursework preceding graduation. Permission of the program advisor is required. All other coursework requirements must be completed prior to beginning the Practicum/Seminar sequence.

## School Business Administration Certification

Thomas Monahan, Advisor  
 Robinson Hall  
 856-256-4748  
 monahan@rowan.edu

A program leading to the Certificate of Eligibility (CE) in school business administration is available for those who already possess a master's degree in any field or the certified public accountant's license (CPA). Requirements for admission to this program are the same as for the master's degree in school administration (school business administration track) except the GRE (or MAT) are not required. Students are required to complete 25-28 semester hours of the required specialization area for the school business administration program. To be eligible for the Certificate of Eligibility (CE) in school business administration, candidates must demonstrate a minimum of 18 credits of undergraduate or graduate study in economics, law, accounting, organizational theory, management or administration, and finance. Students interested in exploring this option must consult with the program advisor for specific certification requirements.

## M.A., School & Public Librarianship

Holly G. Willett, Program Advisor  
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 willett@rowan.edu

This program is designed for students who desire to pursue graduate work to become a public or school librarian. A master's degree can be earned with concentrations leading to New Jersey certification as Educational Media Specialist (for school libraries) or Professional Librarian (for public libraries). An Associate Educational Media Specialist Certificate can be earned for those seeking K-12 certificate endorsement to perform educational media services in schools under the direction of a qualified supervisor. Before enrolling in any course, students must contact the program advisor.

Because of course scheduling, it is advantageous to begin the program in the fall semester. Courses are scheduled for late afternoons, evenings, and Saturdays. A limited number of courses are offered during the summers.

## Admissions Requirements

1. A writing sample of short essay answers (1-2 substantial paragraphs each) to the following questions:
  - a. Please explain your principal objectives for enrolling in graduate study.
  - b. Describe a difficult challenge you have faced as a student and how you dealt with it.
  - c. Give an example of a goal you achieved that was important to you and analyze how you achieved it.
  - d. What qualities do you believe a successful school media specialist or professional librarian should possess?
2. Additionally, applicants for programs leading to certification as Associate Educational Media Specialist or Educational Media Specialist must present proof of teacher certification. Teacher certification is not required for public librarianship.

## Public Librarianship

The curriculum in public librarianship is designed for college graduates who wish to pursue a career in New Jersey public libraries. A professionally written thesis and a professional portfolio are part of the M.A. degree requirements. Students are advised that this program is approved by the New Jersey Department of Education but is not accredited by the American Library Association. Upon completion, students will be recommended for the Professional Librarian Certificate from the New Jersey Department of Education.

### Course Requirements

*I. Required Courses* 33 S.H.

- 1601.506 Foundations of Librarianship (Fall)
- 1601.505 Reference Resources and Services I (Spring)
- 1601.521 Design & Production of Educational Media (Fall)
- 1601.510 Library Collections & Resources (Spring)
- 1601.530 Library Technology (Fall)
- 1601.507 Managing Library Programs (Spring)
- 1601.525 Reference Resources and Services II (Spring)\*
- 1601.511 Organization of Library Resources (Spring)
- 0824.501 Procedures and Evaluation in Research (Fall, Spring)
- 1601.600 Graduate Thesis in Library Services I (Fall)
- 1601.601 Graduate Thesis in Library Services II (Spring)

*II. Restricted Electives* 9 S.H.

- 1601.502 Survey of Children's Literature (Fall)
- 1601.503 Survey of Young Adult Literature (Spring)#
- 1601.531 Serving the Library's Publics\*
- 1601.532 Library Materials for Adults\*
- 1601.550 Independent Study in Librarianship (Fall, Spring)
- 1601.580 Practicum in Library Services (Fall, Spring)

\*May not be offered every year

#Offered every other year

**TOTAL** **42 S. H.**

## School Librarianship

The master's degree program in School Librarianship leads to New Jersey certification as an Educational Media Specialist for grades K-12. It is designed for certified teachers in fields other than library science. The applicant is required to hold a standard New Jersey teacher's certificate, including one year of full-time experience as a classroom teacher. Applicants who hold certificates of Eligibility and Advanced Standing but have not completed a year of full-time classroom teaching may apply for the Associate Educational Media Specialist program. See below. A three-semester hour practicum in library service, a professionally written thesis, and a professional portfolio are part of the M.A. requirements. The College of Education is NCATE accredited, and the school library curriculum is approved by the American Association of School Librarians, a division of the American Library Association.

### Course Requirements (Listed in the preferred sequence)

*I. Required Courses* 36 S.H.

- 1601.506 Foundations of Librarianship (Fall)
- 1601.505 Reference Resources and Services I (Spring)
- 1601.502 Survey of Children's Literature (Fall)
- or
- 1601.503 Survey of Young Adult Literature (Spring)#
- 1601.510 Library Collections & Resources (Spring)
- 1601.521 Design & Production of Educational Media (Fall)
- 1601.511 Organization of Library Resources (Spring)
- 1601.580 Practicum in Library Services (Fall, Spring)\*\*

At this point, students may apply for the Associate Educational Media Specialist Certificate.

- 1601.530 Library Technology (Fall)
- 1601.507 Managing Library Programs (Spring)
- 1601.516 School Media Centers for Teaching and Learning
- 1601.580 Practicum in Library Services (Fall, Spring)\*\*

- 1601.600 Graduate Thesis in Library Services I (Fall)  
 1601.601 Graduate Thesis in Library Services II (Spring)

*II. Professional Core.* 6 S.H.

- 0824.501 Procedures and Evaluation in Research (Fall, Spring)  
 0829.580 Fundamentals of Curriculum Development (Fall, Spring)

*#Offered every other year.*

*\*\*Students may take Practicum for 2 S.H. credits during their Associate Educational Media Specialist curriculum and take a further 1 S.H. credit of Practicum to complete the M.A. requirements.*

**TOTAL** **42 S.H.**

### Associate Educational Media Specialist Certification

This K-12 educational services certification endorsement authorizes the holder to perform educational media services under the direction of a qualified supervisor. The student must have an instructional certificate. Applicants for certification as Associate Educational Media Specialist must apply, be accepted and be fully matriculated in the certification program and maintain a grade point average of 3.0 in educational media courses in order to be recommended for the certification endorsement.

(Courses are listed in the preferred sequence.)

*Required Courses* *20-21 S.H.*

- 1601.506 Foundations of Librarianship (Fall)  
 1601.505 Reference Resources and Services I (Spring)  
 1601.502 Survey of Children's Literature (Fall)  
 or  
 1601.503 Survey of Young Adult Literature (Spring)#  
 1601.510 Library Collections & Resources (Spring)  
 1601.521 Design & Production of Educational Media (Fall)  
 1601.511 Organization of Library Resources (Spring)  
 1601.580 Practicum in Library Services (Fall, Spring)\*\*

*#Offered every other year.*

*\*\*Students may take Practicum for 2 or 3 S.H. credits during their Associate Educational Media Specialist curriculum*

### M.A., School Psychology

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Roberta Dihoff, Program Advisor  
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The graduate offerings in school psychology are divided into two major programs which have separate and distinct admissions criteria. The two programs are sequential, although a student may wish to pursue only one. It should be noted that admission to one program does not automatically guarantee admission to the subsequent program.

The M.A. in school psychology program builds a substantial background and depth in the theories, major knowledge, and methodological procedures of the discipline of psychology. The subsequent professional program in school psychology for the preparation of school psychologists at the Educational Specialist degree level is concerned with psychological, professional, and related educational courses to develop awareness and skill in interventions, consultations and assessments for school children. The Educational Specialist program includes the practicum and externship component. Field placements give added experience and training in the clinical and consultation aspects of school psychology. The successful completion of both degree programs can lead to a New Jersey school psychologist certificate.

### Additional Admission Requirements

In addition to minimum requirements of the University for admission to graduate study, this program requires:

1. A minimum of 15 undergraduate psychology credits (including abnormal psychology and child or adolescent psychology, and 9 s.h. of psychology electives approved by the department admissions committee)
2. A minimum grade point average of in undergraduate psychology courses

3. Acceptable scores on the Graduate Record Examination
4. Interview with the program committee

### Course Requirements

- |             |  |                |
|-------------|--|----------------|
| <i>I.</i>   | <i>Basic Professional Component</i>                            | <i>6 S.H.</i>  |
|             | 0821.530 Foundations of Multicultural Education                |                |
|             | 0822.586 Psychology of Motivation and Learning (Fall) OR       |                |
|             | 0822.510 Theories of Learning                                  |                |
| <br>        |  |                |
| <i>II.</i>  | <i>Specialization</i>  | <i>22 S.H.</i> |
|             | 0826.526 Individual Counseling Procedures                      |                |
|             | 2009.594 Psychology of Personality (Fall)                      |                |
|             | 0824.561 Educational Statistics (Fall)                         |                |
|             | 0825.516 Applied Tests & Measurement (Fall, Summer)            |                |
|             | or   |                |
|             | 2006.533 Tests and Measurement (Spring, Summer)                |                |
|             | 2009.511 Child Psychology (Fall, Spring)                       |                |
|             | or   |                |
|             | 2009.587 Adolescent Psychology (Spring)                        |                |
|             | 0818.520 Neurological Bases of Educational Disorders           |                |
|             | or   |                |
|             | 2010.625 Physiological Psychology (Fall)                       |                |
|             | 2001.621 Abnormal Psychology (Spring)                          |                |
|             | or   |                |
|             | 2003.624 Psychopathology of Childhood and Adolescence (Summer) |                |
| <br>        |  |                |
| <i>III.</i> | <i>Seminar and Research</i>                                    | <i>6 S.H.</i>  |
|             | 0822.600 Seminar I (Fall)                                      |                |
|             | 0822.601 Seminar II (Spring)                                   |                |

**TOTAL** **34 S.H.**

### Ed.S. Educational Services: School Psychologist Certification

John Klanderma, Coordinator  
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 856-256-4500 x3797  
 klanderma@rowan.edu

#### Additional Admission Requirements

Applicants for the Educational Specialist degree program must meet all requirements for the M.A. program and hold a master's degree in school psychology, another specialized area of psychology, or in a related field of study with the core requirements applicable to a graduate degree program in psychology approved by the department admissions committee. Applicants who did not obtain an M.A. in School Psychology at Rowan must submit GRE Psychology Test (#81) scores as well as GRE general or MAT scores. Admission to the externship experience will be coordinated and approved by the program advisor following a procedure in which all prior records and information are reviewed to evaluate the candidate's scholastic, personality and social attributes relevant to competence and fitness to function as a school psychologist. Non-matriculated students are not eligible to enroll in the restricted courses within this program.

#### Other Requirements

The Certification Program has a residency requirement of 15 semester hours of credit within a one-year time span at any point during the program. (The student must register for a minimum of 15 semester hours within any three consecutive semesters, including summer session.) In addition, one year of experience with school age children is required before registering for the course Colloquium (Externship) in School Psychology.

**PRACTICUM:** The practicum involves a total of 450 clock hours of professional school psychology experience in a public school setting, the Rowan Assessment and Learning Center, and through hands-on experience associated with the intervention and assessment courses.

**EXTERNSHIP:** The externship involves one year, or its equivalent, of 1200 clock hours of supervised professional school psychology experience obtained primarily in public schools. This extern-

ship requirement can be fulfilled during the first year of on-the-job experience.

The Ed.S. in Educational Services: School Psychologist Certification degree is awarded upon completion of all courses, practicum and externship requirements.

### Course Requirements

The following courses will also satisfy the state requirements for the school psychologist's certificate. This list includes 34 s.h. of M.A. program courses and 40 s.h. of Ed.S. program courses. A total of 74 credits in graduate courses is required with the following distributions:

*I. Basic Professional Component 12 S.H.*

- 0821.530 Foundations of Multicultural Education\*
- 0828.546 Educational Organization and Leadership
- 0829.580 Fundamentals of Curriculum Development
- or
- 0829.550 Public School Curriculum
- 0822.586 Psychology of Motivation and Learning\* (Fall)
- or
- 0822.510 Theories of Learning\*

*II. Special Needs/Exceptional Children 6 S.H.*

- 0808.555 Education/Psychology of the Exceptional Learner
- 0818.503 Foundations of Learning Disabilities
- or
- 0810.585 Educational Assessment in Special Education

*III. Testing and Clinical Techniques 22 S.H.*

- 2006.533 Tests and Measurements\* (Spring, Summer)
- or
- 0825.516 Applied Tests and Measurements\* (Fall, Summer)
- 0826.526 Individual Counseling Procedures\*
- 0824.561 Statistics in Educational Research\* (Fall)
- 2006.627 Individual Psychodiagnostics I (Fall)
- 2006.628 Individual Psychodiagnostics II (Spring)

- 2006.629 Individual Psychodiagnostics III (Fall)
- 2006.632 School Psychology: Consultation & Intervention (Spring)  
(Enrollment in 2006.627, 628, 629 & 632 is limited to fully matriculated students with permission of program advisor)

*IV. Personality & Behavioral Psychology 12 S.H.*

- A course in child and abnormal psychology required prior to enrollment.
- 2009.587 Adolescent Psychology\* (Spring)
  - 2003.624 Psychopathology of Childhood and Adolescence\* (Summer)
  - 2009.594 Psychology of Personality\* (Fall)
  - 2010.625 Physiological Psychology\* (Fall)
  - or
  - 0818.520 Neurological Bases of Educational Disorders\*

*V. Seminar/ Practicum/Externship 22 S.H.*

- 0822.600 Seminar I\*
- 0822.601 Seminar II\*
- 0822.530 Consultation & Clinical Services Practicum (Spring, Summer)
- 0822.634 Colloquium in School Psychology (Fall, Spring)

**TOTAL (including M.A. courses) 74 S.H.**

*\*M.A. Program Courses*

### M.A., Special Education

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crites@rowan.edu

The purpose of the program is to train skilled special educators using a non-categorical or generic approach. This advanced study program focuses on the educational, psychological and sociological needs of students with mild, moderate, severe and profound disabilities. There are two tracks: Track I, designed for individuals who possess standard NJ teacher of the handicapped certification and wish to obtain increased competency in theory, knowledge, and methodological procedures for working with exceptional individuals, and Track II, designed for individuals who possess a standard NJ instructional certificate and

wish to obtain teacher of the handicapped certification. Students who complete Track II must apply for teacher of the handicapped certification through the New Jersey Department of Education.

### Additional Admission Requirements

In addition to minimum requirements of the University for admission to graduate study, this program has special requirements:

1. An interview with the program advisor
2. Completion of a writing sample at the time of the interview
3. A resumé
4. Evidence of appropriate teaching certification

### Course Requirements

#### Track I

- |      |   |         |
|------|---|---------|
| I.   | BASIC PROFESSIONAL COMPONENT  | 6 S.H.  |
|      | One course from two of the basic professional area components: Research Methods and Educational Statistics; Historical, Philosophical and Social Foundations; Education and Developmental Psychology. |         |
| II.  | SPECIALIZATION  | 18 S.H. |
|      | 0808.555 Educational Psychology of Exceptional Learners   |         |
|      | 0826.597 Relations of the Public Schools with the Institutions and Agencies of New Jersey   |         |
|      | 0810.581 Teaching Strategies for Managing Behavior of the Handicapped: A Curricular Approach  |         |
|      | 0808.515 Curriculum and Instruction in Special Education  |         |
|      | 0810.585 Educational Assessment in Special Education  |         |
|      | 0830.530 Teaching Reading to the Exceptional Child  |         |
| III. | RESTRICTED ELECTIVES  | 6 S.H.  |
|      | 0808.530 Introduction to Vocational Education for Individuals with Special Needs  |         |
|      | 0810.578 Administration and Supervision of Education for the Handicapped*   |         |
|      | 0810.580 Teaching the Severely and Profoundly Handicapped   |         |
|      | 0818.503 Foundations of Learning Disabilities   |         |

0818.520 Neurological Bases of Educational Disorders

IV. SEMINAR AND RESEARCH	6 S.H.
--------------------------	--------

0810.600 Specialization Seminar and Investigation I

0810.601 Specialization Seminar and Investigation II

<b>TOTAL</b>	<b>36 S.H.</b>
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*\*This course may be used in partial fulfillment of the academic requirements for the New Jersey Supervisor's Certificate.*

#### Track II

- |      |  |         |
|------|--|---------|
| I.   | BASIC PROFESSIONAL COMPONENT   | 6 S.H.  |
|      | One course from two of the basic professional area components: Research Methods and Educational Statistics; Historical, Philosophical and Social Foundations; Education and Developmental Psychology |         |
| II.  | SPECIALIZATION   | 22 S.H. |
|      | 0808.555 Educational Psychology of Exceptional Learners  |         |
|      | 0826.597 Relations of the Public Schools with the Institutions and Agencies of New Jersey  |         |
|      | 0808.515 Curriculum and Instruction in Special Education   |         |
|      | 0810.581 Teaching Strategies for Managing Behavior of the Handicapped  |         |
|      | 0810.585 Educational Assessment in Special Education   |         |
|      | 0808.520 Clinical Experiences with Handicapped Children (4 s.h.)   |         |
|      | 0830.530 Teaching Reading to the Exceptional Child   |         |
| III. | RESTRICTED ELECTIVES   | 9 S.H.  |
|      | 0808.530 Introduction to Vocational Education for Individuals with Special Needs   |         |
|      | 0810.578 Administration and Supervision of Education for the Handicapped*  |         |
|      | 0810.580 Teaching the Severely and Profoundly Handicapped  |         |
|      | 0818.503 Foundations of Learning Disabilities  |         |
|      | 0818.520 Neurological Bases of Educational Disorders   |         |
| IV.  | SEMINAR AND RESEARCH   | 6 S.H.  |
|      | 0810.600 & 0810.601 Seminar in Education of the Handicapped  |         |

<b>TOTAL</b>	<b>43 S.H.</b>
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*\*This course may be used in partial fulfillment of the academic requirements for the New Jersey Supervisor's Certificate.*

## M.A., Student Personnel Services

Gerald Ognibene, Program Advisor  
 Robinson Hall  
 856-256-4500 x 3828  
 ognibene@rowan.edu

This program prepares individuals for careers as school counselors in K-12 educational settings or for careers in Student Affairs, working in higher education settings.

### School Counseling

For individuals who aspire to careers in K-12 schools, this program leads to a Master of Arts degree in Student Personnel Services and also, New Jersey certification in Student Personnel Services. New Jersey certification in Student Personnel Services requires a New Jersey instructional certificate and a minimum of one year of successful teaching experience. 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, as well as one's personal and social development; and working cooperatively with community resources in assisting individuals and families.

### Student Affairs in Higher Education

For individuals who aspire to careers in Student Affairs at the college and/or university level, this same program offers the Master of Arts degree in Student Personnel Services with coursework and the Practicum/Internship chosen to reflect career objectives within Student Affairs. Careers in Student Affairs include positions in college counseling centers, career centers, admissions, registrar, student life, resident life and dean of students offices.

## Course Requirements

For Graduate Students whose matriculation is effective Fall Semester, 2001 and thereafter.

- I. *Core Courses-Prerequisites to Clinical Experiences* 21 S.H.
  - 0826.520 Design and Administration of Developmental Counseling Programs
  - 0826.526 Individual Counseling Procedures\*
  - 0826.509 Group Counseling in Student Personnel Services\*
  - 0826.582 Career Counseling and Development\*
  - 0825.516 Applied Tests and Measurements (Basic Professional Course)  
or
  - 2006.533 Tests and Measurements (Basic Professional Course)
  - 0826.597 Relations of the Public School with the Institutions and Agencies of New Jersey
  
- II. *Clinical Experiences* 18 S.H.
  - 0826.527 Practicum in Counseling and Student Personnel Services\*\*
  - 0826.601 Internship I in Counseling and Student Personnel Services\*\*

To be taken concurrently with:

  - 0826.603 Research in Counseling I
  - 0826.602 Internship II in Counseling and Student Personnel Services\*\*

To be taken concurrently with:

  - 0826.604 Research in Counseling II
  
- TOTAL CORE COURSES** **39 S.H.**
  
- III. *Human Growth and Development Psychology courses* 6 S.H.
  - 2005.610 Social and Cultural Diversity
  - 2009.560 Lifespan Development
  
- IV. *Social Foundations courses (select one)* 3 S.H.
  - 0821.502 Foundations of Education
  - 0821.527 History and Philosophy of Education
  - 0821.530 Multicultural Education
  - 0829.580 Fundamentals of Curriculum Development
  
- TOTAL** **48 S.H.**

\* *Early Field Experience Component*

\*\* *Field Experience Component*

## M.A., Supervision & Curriculum Development

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 856-256-4748  
 monahan@rowan.edu

This program serves the educator wishing to qualify as a supervisor of instruction in the public schools with responsibility for the continuing direction and guidance of instructional personnel. The program meets New Jersey requirements for supervisor certification. Students may develop an emphasis in curriculum or supervision.

### Additional Admission Requirements

In addition to the University requirements for admission to graduate study, this program has special requirements:

1. A New Jersey standard instructional certificate or an appropriate New Jersey educational services certificate.
2. One year of successful experience in teaching or in an appropriate educational services field. (Three years of successful experience in teaching or an appropriate educational services field and a master's degree are required for state certification as a supervisor.)
3. An interview with a positive recommendation from the program coordinator, based upon University and department admission standards

### Additional Graduation Requirements

A student must complete a two-semester, 300 clock hour field experience included within the Practicum and Seminar I & II courses and, under the guidance and approval of the Practicum and Seminar I & II faculty, complete a major research project related to that field experience.

### Course Requirements

NOTE: Students are permitted to accumulate up to 9 s.h. as non-matriculated students. Of that 9 s.h., 6 s.h. must be taken in Procedures and Evaluation in Research (0824.501) and Educational Organization and Leadership (0828.546) and 3 s.h. from the basic professional area of the program.

- |   |         |
|---|---------|
| I. <i>Basic Professional Area</i>   | 9 S.H.  |
| 0821.502 Foundations of Educational Policy Making (C)   |         |
| 0824.501 Procedures and Evaluation in Research (A)  |         |
| 0829.580 Fundamentals of Curriculum Development (C)   |         |
| II. <i>Academic/Professional Core</i>   | 14 S.H. |
| 0828.546 Educational Organization and Leadership (A, B)   |         |
| 0828.503 Leading the Learner Centered School  |         |
| 0827.580 Research Proposal Development  |         |
| 0827.600 Practicum and Seminar I in Administration & Supervision  |         |
| 0827.601 Practicum and Seminar II in Administration & Supervision (D)   |         |
| III. <i>Specialization Restricted Electives</i>   | 12 S.H. |
| 0827.559 School Law for Administration and Supervision  |         |
| 0828.598 Observational Skills for Supervisors   |         |
| 0828.602 Field Service in Supervision: Clinical Supervision   |         |
| 0828.522 Educational Supervision  |         |
| 0829.547 Curriculum Theory (C)  |         |
| 0829.590 Curriculum Evaluation (C)  |         |
| 0829.550 The Public School Curriculum K-12 (C)  |         |
| 0829.536 The Elementary School Curriculum (E)   |         |
| 0833.510 Computers & the Curriculum (E)   |         |
| 0833.530 Computer-Assisted Instruction (E)  |         |
| IV. <i>Graduate Free Elective</i>   | 3 S.H.  |
| (A) <i>MUST be scheduled during the first 9 s.h. of course work.</i>  |         |
| (B) <i>This course is the prerequisite for all courses in Educational Leadership.</i>   |         |
| (C) <i>This course is offered by the Department of Secondary Education/Foundations of Education</i>   |         |
| (D) <i>This course is to be scheduled during the last academic year preceding graduation.</i>   |         |
| <i>Approval of the program advisor is required. All other coursework must be completed prior to beginning the Practicum/Seminar sequence.</i> |         |



(E) *This course is offered by the Department of Elementary Education/Early Childhood Education*

**TOTAL: 38 S.H.**

*NOTE: In order to qualify for the New Jersey supervisor's certificate, students must successfully complete, in addition to all other requirements, 12 s.h. of course work, including a minimum of 3 s.h. in staff supervision and a minimum of 6 s.h. in curriculum development.*

## Supervisor's Certification

Thomas Monahan, Coordinator  
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monahan@rowan.edu

A certification program in supervision is available for those individuals who already possess a master's degree in any field of study and a standard New Jersey instructional certificate or appropriate educational services certificate. Requirements for admission to this program are similar to those for the master's degree program in supervision and curriculum development except that GRE (or MAT) scores are not required. For this 12 semester hour program, matriculation must be obtained by the completion of 6 semester hours (2 courses). Students currently matriculated in a Rowan M.A. degree education program who wish to apply for a supervisor's certificate at the time of graduation must submit an application for concurrent matriculation in the supervisor's certification program to The Graduate School following the completion of no more than two-thirds of the required master's degree coursework.

**Required 6 S.H.**

0828.546	Educational Organization & Leadership (A)
0829.580	Fundamentals of Curriculum Development

Students are advised that successful completion 0828.546 and 0829.580 are required before they may enroll in 0828.598, 0828.522, or 0828.602.

**Restricted Electives 6 S.H.**

*(Note: at least one of these restricted electives must be a curriculum course)*

0828.598	Observational Skills for Supervisors
0828.522	Educational Supervision
0828.602	Field Service in Supervision: Clinical Supervision
0802.536	The Elementary School Curriculum (C)
0829.547	Curriculum Theory (B)
0829.550	Public School Curriculum K-12 (B)
0829.590	Curriculum Evaluation (B)
0833.510	Computers in the Curriculum (C)
	Other course work oriented directly toward supervision or curriculum in particular grade levels, or in specific subject fields, may also be applied as restricted electives.

Examples of such courses are:

0830.540	Administration and Supervision of School Reading Programs
0808.515	Curriculum and Instruction in Special Education
0810.578	Administration and Supervision of Education for the Handicapped
0827.600	Practicum and Seminar I in Administration and Supervision (D)

- (A) *This course is the prerequisite for all courses in Educational Leadership.*
- (B) *This course is offered by the Department of Secondary Education/Foundations of Education*
- (C) *This course is offered by the Department of Elementary Education/Early Childhood Education*
- (D) *This course is to be scheduled during the last academic year preceding graduation.*

*Approval of the program advisor is required. All other coursework must be completed prior to beginning the Practicum/Seminar sequence.*

**TOTAL 12 S.H.**

## M.A., Subject Matter Teaching

John Gallagher, Program Advisor  
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 gallagher@rowan.edu

The Subject Matter Teaching Master of Arts programs expand the subject matter knowledge and skills in the student's undergraduate major or discipline and provide graduate level professional study. Graduates of this program build a stronger foundation in a subject matter area and participate in a program that will focus on research, reflection, and a broad study of the educational literature.

Master of arts subject matter teaching programs are offered in the following subjects:

1. Art
2. Mathematics
3. Music Education
4. Science
  - Biological Sciences
  - Physics/Chemistry

Graduate coursework also can be incorporated into a master of arts subject matter teaching program in foreign language and literatures.

The unique features of this program include flexibility in selection in the subject matter specialty (taken in either the College of Liberal Arts and Sciences or the College of Fine and Performing Arts) and in the professional education courses in the College of Education. Students assist in setting the direction of the program to meet personal and professional needs and interests.

### Additional Admission Requirement

In addition to the minimum requirements of the University for admission, this program requires a state teaching certificate in the subject area selected for graduate study.

### Retention and Graduation Requirements

Students complete a total of 33 credits following specified categories. Students are encouraged to consult regularly with the Program Advisor in the College of Education and the Academic Advisor in the College of the academic subject specialty.

## Course Requirements

*I. Basic Professional Component 6-9 S.H.*  
 One course from each of two of the following areas is required: Research Methods and Educational Statistics; Historical, Philosophical, and Social Foundations; Educational and Developmental Psychology (Consult with Program Advisor for possible additional requirements.)

*II. Curriculum & Curriculum Development 3-6 S.H.*  
 A minimum of one course must be selected from the following:  
 0802.536 Elementary Curriculum  
 0829.550 Public School Curriculum  
 0829.580 Fundamentals of Curriculum Development

*III. Teaching Specialty (Content) 12-21 S.H.*  
 (For specific courses, refer to academic areas listed on subsequent pages)

*IV. Seminar & Research 6 S.H.*  
 (In appropriate subject area)

*V. Electives 0-6 S.H.*

**TOTAL 33 S.H.**

## Art

Jane Graziano, Ed.D.  
 Academic Advisor  
 Art Department  
 Westby Hall  
 (856) 256-4045  
 graziano@rowan.edu

**I. Basic Professional Component 6 S.H.**  
 One course from each of two of the following areas is required:  
 A. Historical, Philosophical, Social Foundations  
 B. Educational & Developmental Psychology  
 C. Research Methods and Educational Statistics

**II. Curriculum & Curriculum Development 3 S.H.**

**III. Required 3 S.H.**  
 1002.535 Advanced Graduate Problems in Art  
 Studio Electives 15 S.H.

<b>IV. Seminar</b>	<b>6 S.H.</b>
0829.600 Seminar and Investigation I	
0829.601 Seminar and Investigation II	

**TOTAL** **33 S.H.**

To fulfill the studio requirement, the student may choose from among the many art disciplines offered by the Department of Art. The choices may be from any two-dimensional or three-dimensional art medium such as painting, ceramics, computer art, and sculpture.

These courses are designed to expand basic knowledge within the teaching specialty and to provide in-depth exploration in a particular discipline (depending upon individual student needs, additional or substitute courses may be taken or required upon the advice and permission of the academic advisor.)

Students may take up to 15 semester hours in a studio area of their choice. Upon the consent of the advisor, the student has the option of mounting a graduate art exhibition in addition to the required thesis work. This exhibition would feature recent work completed in the studio courses.

*Note: All studio courses adhere to the National Association of Schools of Art and Design (NASAD) standards already in force within the Department of Art, that is, two hours of supervised studio time for each hour of academic credit.*

## Mathematics

Marcus Wright, Ph.D.  
Academic Advisor  
Department of Mathematics  
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(856) 256-4500 X3873  
wright@rowan.edu

The M.A. in Subject Matter Teaching-Mathematics provides teachers of high school mathematics the opportunity to acquire a more extensive and more secure mathematical background. By reading research and participating in seminars, the program also develops an awareness of relevant and current educational theory. Graduates are able to assume professional leadership roles.

## Additional Admission Requirements

In addition to the minimum requirements of the University, students must have an undergraduate background in Abstract Algebra, Geometry, and Calculus III. If not, up to 6 S.H. of upper level undergraduate course work may also be required.

## Graduation Requirements

In addition to the completion of course requirements, students must pass a comprehensive examination in mathematics education given by the Department of Mathematics.

## Course Requirements

I. *Basic Professional Component* 6-9 S.H.

II. *Teaching Specialization* 12-21 S.H.

A. REQUIRED 9 S.H.

- 1701.500 Foundations of Mathematics
- 1703.550 Topics in Discrete Mathematics
- 1701.522 History of Mathematics

B. RESTRICTED ELECTIVES

- 1701.502 Linear Algebra
- 1701.503 Number Theory
- 1701.504 Mathematical Logic
- 1701.505 Probability & Statistics
- 1701.507 Differential Geometry
- 1701.510 Real Analysis I
- 1701.511 Real Analysis II
- 1701.512 Complex Analysis I
- 1701.513 Complex Analysis II
- 1701.520 Topics-Applied Mathematics
- 1701.521 Non-Linear Differential Equations
- 1701.524 Abstract Algebra I
- 1701.525 Modern Geometry
- 1701.526 Point Set Topology
- 1701.527 Abstract Algebra II
- 1701.529 Numerical Analysis

or

Selected Graduate Computer Science Courses

III. *Seminar and Research* 6 S.H.

- 0833.600 Problems in Mathematics Education I
- 0833.601 Problems in Mathematics Education II

**TOTAL** **33 S.H.Z**

## M.A., Music Education

Lili Levinowitz, Ph.D.  
 Academic Advisor  
 Department of Music  
 Wilson Hall  
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 levinowitz@rowan.edu

The purpose of the M.A. in Music Education is to prepare students to inquire about teaching and learning in music through the research process. Graduate students in this program have been recognized regionally for their research through presentation and publication venues. In addition, approximately one-fifth of the degree courses may be chosen from numerous electives to form a strong minor in either applied music, conducting, instrumental techniques, or administration and supervision. Because of the unique course rotation sequence, most of the course work (except the thesis) can be completed by taking courses in only one semester during the academic year and in the summer sessions. This enables the busy marching band director or choral program director to maximize teaching time and learning time.

### Additional Admission Requirements

In addition to the minimum requirements of the University, there is also a preliminary interview.

### Graduation Requirements

Completion of a thesis to be presented in a local forum is required of all students.

### Course Requirements

- I. *Basic Professional Component* 6 S.H.  
 One course from each of two of the following areas is required:
  - A. Historical, Philosophical, Social Foundations
  - B. Educational & Developmental Psychology
  - C. Research Methods and Educational Statistics
  
- II. *Curriculum & Curriculum Development* 3 S.H.

- III. *Specialization* 8 S.H.
  - 0832.501 General Music in the Elementary and Secondary Schools
  - 1004.508 Instrumental Procedures  
or
  - 1004.514 Choral Procedures
  - 0832.505 Selected Approaches in Music Education

### *Other Studies in Music* 10 S.H.

- A. REQUIRED 3 S.H.
  - 1005.547 Music and Related Arts
  
- B. ELECTIVES 7 S.H.
 

This unique feature of the program allows the graduate student to develop a minor in performance, conducting, instrumental techniques, or administration and supervision. Choose from the following:

  - 0828.501 Administration and Supervision of Music Education\*
  - 0832.502 Teaching of Music Theory
  - 0832.510 Music for Special Needs
  - 1004.500/501 Applied Major Instrument I, II, III, IV  
or
  - 1004.510/511 Applied Major Voice I, II, III, IV
  
- 1 004.504 Advanced Instrument Techniques: Woodwinds
- 1004.505 Brass & Percussion
- 1004.506 Strings
- 1004.507 Piano
- 1004.508 Instrumental procedures
- 1004.524 Conducting I (Instrumental)
- 1004.525 Conducting II (Vocal)
- 1006.546 Development and Interpretation of Symphonic Literature
- 1006.545 Development and Interpretation of Choral Literature

- IV. *Seminar and Research* 6 S.H.
  - 0829.600 Seminar and Investigation I
  - 0829.601 Seminar and Investigation II

**TOTAL 33 S.H.**

*\*This course may be used in partial fulfillment of the academic requirements for the New Jersey supervisor's certificate.*

## Science

Richard J. Meagher, Ph.D.

Academic Advisor

Department of Biological Sciences

Bosshart Hall

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Catherine Yang, Ph.D.

Academic Advisor

Department of Chemistry and Biochemistry

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These programs provide the opportunity to pursue a graduate degree in Subject Matter Teaching in the sciences. It is assumed that the candidate has a teaching certificate in either biological science, physical science, or comprehensive science.

These programs provide the opportunity for certified elementary and secondary school teachers to enhance their background in the sciences and education to prepare them for leadership positions in their discipline.

## Course Requirements

*I. Basic Professional Component* 6-9 S.H.

*II. Curriculum and Curriculum Development* 3 S.H.

*III. Teaching Specialty* 12-21 S.H.

### A. BIOLOGICAL SCIENCES

A minimum of 12 hours total is required for the biological sciences content area:

0404.579 Comparative Morphology of Vascular Plants

0406.580 Plant Physiology

0410.587 Animal Physiology

0420.594 Synecology

0420.595 Pine Barrens Ecology

0420.596 Ecology of the Estuary

0422.598 Human Genetics

0427.597 General Embryology of Animals

### B. PHYSICAL SCIENCES

A minimum of 12 hours total is required for the physical sciences content area:

1901.545 Selected Topics in Physical Science

1902.525 Mathematical Methods in Physics

1902.527 Statistical Mechanics

1902.528 Electricity and Magnetism I

1902.529 Electricity and Magnetism II

1902.530 Applied Physics Lab

1902.541 Quantum Mechanics I

1902.542 Quantum Mechanics II

1902.555 Mechanics

1902.559 Light

1902.561 Electronics

1902.563 Atomic Physics

1905.530 Special Topics

1905.550 Advanced Seminar

1907.548 Biochemistry

1907.558 Advanced Biochemistry

1907.565 Organic Reactions and Mechanisms

1907.568 Medicinal Chemistry

1907.570 Organic Spectroscopy

1908.545 Quantum Mechanics

1908.550 Thermodynamics I

1909.510 Instrumental Analysis

*IV. Seminar and Research* 6 S.H.

0834.600 and 0834.601 Seminar in Science

*V. Electives* 0-6 S.H.

Courses are selected with the approval of the academic advisor and program advisor.

**TOTAL**

**33 S.H.**

## Ed.D., Educational Leadership

James Coaxum, Program Advisor

Robinson Hall

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Change is an inevitable. One does not debate whether change will take place; rather one wonders who will control it and pace it. In public school districts and other educational institutions, this is the challenge of the 21st century educational leader. Our vision, there fore, is to create a network of leaders who will facilitate profound and meaningful change for education, especially in our region.

Our mission is to offer a doctoral program that prepares leaders at all levels, and in various educational settings. The program focuses on a clearly articulated study of leadership, organizations, policy, change and research.

The Educational Leadership Department faculty is dedicated to offering a rigorous course of study that will provide students with an opportunity to develop into successful field practitioners. This will happen when students become immersed in the literature and research of leadership and education. Our expectation is that students will achieve this by actively participating in a learning community that continually assesses scholarly research and its relationship to transcending educational institutions through the practice of leadership.

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 comprehend and evaluate professional literature and research. In addition, they learn how to translate the research theory into practice.

### **Goals for Acquiring Future Leadership Success**

In light of the aforementioned vision, the goals of the Ed.D. program in educational leadership are as follows:

1. To provide doctoral candidates with opportunities to acquire the knowledge and skills in leadership, organization, policy, change and research necessary to be effective educational leaders.
2. To provide doctoral candidates with opportunities to demonstrate ability as educational leaders to evaluate data and determine the needs of educational organizations, formulate solutions, implement plans to bring about needed changes and evaluate resulting processes and solutions.
3. To establish a network of doctoral graduates that exercise a meaningful force on the improvement of education throughout a variety of communities in the region including but not limited to public and private school systems, higher education institutions, government agencies, private sector educational organizations and education within business and industry.

### **Anticipated Outcomes of the Ed.D. Program in Educational Leadership**

Successful candidates will be able to:

1. understand leadership theory and its relationship to leadership practice as demonstrated by increasingly sophisticated knowledge and application of leadership practices as they proceed through the program;
2. apply leadership theory and contextual knowledge in order to identify and respond to problems in educational settings;
3. demonstrate analytical and communication skills necessary for successful leaders to foster and sustain excellence in educational settings;
4. demonstrate the ability to critically evaluate various literatures relating to leadership practice and to design and implement research projects in educational settings;
5. investigate alternatives and make leadership decisions in educational settings, based on professional research and literature;
6. implement and sustain profound change in educational settings.

Preadmission information sessions are scheduled for interested candidates. The sessions include a program overview, question/answer opportunities with current students and faculty, and a distribution of program applications. Individuals who are unable to attend a scheduled information session can obtain an application by calling (856)-256-4744. Students may also obtain information from our website at <http://www.rowan.edu/mars/depts/edlead/>

### **Admission Requirements**

In addition to the University requirements for entrance into graduate study, applicants must provide the following documentation:

1. A master's degree from an accredited college or university
2. A grade of "B" or better in a graduate course in Organizational Theory and Behavior (or its equivalent)

3. A grade of "B" or better in a graduate course in Procedures & Evaluation in Research or Statistics (or its equivalent)
4. A minimum 3.5 GPA in prior graduate studies
5. Evidence of sufficient computer skills to operate a word processing program
6. A personal interview with program faculty

In addition, the candidate must submit:

1. Three recommendations from individuals in a position to attest to the applicant's ability to engage in rigorous academic study at the doctoral level
2. Recent scores (within 5 years) from a graduate record exam (GRE, MAT, GMAT)
3. Two official transcripts from all institutions attended
4. A leadership portfolio and resume, which will be reviewed for evidence of demonstrated leadership and leadership potential.

### Program Structure

The doctoral program is designed in three phases. Phase One of the program provides the foundation for the entire program with a focus on the theoretical aspects of leadership, organizations, and change. Phase Two of the program centers on the socio-political aspects of leadership and research techniques that can be used to study and interpret leadership and change. Phase Three of the program provides for intensive fieldwork that allows students to take leadership theory to practice, understand the ethics of educational leadership, and culminates with the dissertation project. The program totals 74 semester hours: 50 semester hours of required courses; 12 semester hours of electives that comprise a focus area; and, 12 semester hours for the dissertation.

Phase One contains eighteen credit hours, including the four core courses of the program: Leadership Theory, Organizations as Cultures: Theory and Applications, Changing Organizations, and Research Literature Analysis and Writing in Educational Leadership.

This phase allows students to take two elective courses. During this time, students may select to enroll either on a part-time or full-time basis.

Phase Two, containing eighteen credit hours, marks the beginning of the cohort. Before entering Phase Two, students must complete the four core courses in Phase One. Once in Phase Two, all cohort students will take three courses together: Leadership Seminar I, Conducting and Analyzing Survey Research in Educational Leadership, and Conducting and Analyzing Qualitative Research in Educational Leadership. The other required courses in this phase include: Diversity in Educational Leadership and The Policy Environment.

These are open courses that will be to matriculated and non-matriculated students. This phase allows students to take one elective course.

Phase Three, containing thirty-eight hours is the beginning of the dissertation phase.

Cohort students will enroll together for twenty credit hours including: Leadership, Applications, Fieldwork and Seminar I, Leadership, Applications, Fieldwork and Seminar II, and Advanced Leadership. The other required course in this phase is Applied Ethics in Educational Leadership. Students may also enroll in one elective course during this phase. The dissertation comprises the remaining twelve semester hours.

### Course Sequence

#### *PHASE I (18 credit hours)*

SEMESTER 1 (FALL)	
Leadership Theory	3 credit hours
Organizations as Cultures: Theory and Applications	3 credit hours
Elective*	3 credit hours
SEMESTER 2 (SPRING)	
Changing Organizations	3 credit hours
Research Literature Analysis & Writing for Ed. Leadership	3 credit hours
Elective*	3 credit hours

BENCHMARK I: Preliminary Review prior to entrance into Phase II

*PHASE II (18 credit hours)*

SEMESTER 3 (SUMMER)	
Leadership Seminar I	3 credit hours
Conducting and Analyzing Survey	
Research for Ed. Leadership	3 credit hours
Diversity for Educational Leadership	3 credit hours
SEMESTER 4 (FALL)	
The Policy Environment	3 credit hours
Conducting and Analyzing Qualitative Research for Ed. Leadership	3 credit hours
Elective*	3 credit hours

*PHASE III (38 credit hours)*

SEMESTER 5 (SPRING)	
Leadership, Applications, Fieldwork, and Seminar	9 credit hours
SEMESTER 6 (SUMMER)	
Leadership, Applications, Fieldwork, and Seminar	9 credit hours
Applied Ethics in Educational Leadership	3 credit hours

**BENCHMARK II: Progress Review**

Work on dissertation proposal can commence at completion of Benchmark II

SEMESTER 7 (FALL)	
Advanced Leadership	2 credit hours
Elective	3 credit hours
Dissertation Research *	12 credit hours
(on-going; can be taken in increments as mutually agreed upon with dissertation chairperson)	

*\* students are required to enroll in only four elective courses*

*\*\* additional Dissertation Research course credits may be required in order to maintain continuous enrollment. See Section IV - Dissertation Proposal below.*

## Certificates of Graduate Study

### Certificates of Graduate Study in Computers in Education

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 856-256-4500 x3803  
 molinari@rowan.edu

*NOTE: These certificate programs are not designed for those who intend to matriculate in the master's degree program, although a student may elect to complete both areas of study.*

The certificate programs are not a State of New Jersey instructional certificate unless otherwise noted.

### Computers in Education

The Certificate of Graduate Study in computer education includes a comprehensive picture of the use of computers in education today. The goal of this program is to provide educators with the knowledge and proficiencies needed to incorporate the 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 elementary and secondary schools.

Students complete 18 credit hours selected from the courses below, with approval of the program advisor. Depending upon computer literacy, program goals, and level (elementary, secondary or administration), some courses will be required/substituted through advisement.

### Course Requirements

0827.632	Computer Technology in Educational Administration* (Administrators)
	or
0833.530	Computer Assisted Instruction
0833.510	Computers and the Curriculum
0833.525	Instructional Applications of Word Processing & Data Management*
0833.521	Instructional Computer Language: Logo**
0833.548	Seminar in Educational Computing***
0833.574	Multimedia & Hypermedia for Teachers



- 0833.572 Special Topics in Computer Education (varied topics)
- 0701.560 Computing Environments in Education

**TOTAL 18 S.H.**

*\* may be waived by advisor when expertise is exhibited*

*\*\* required for elementary teachers*

*\*\*\* substitute with Seminar in Elementary Teaching when in conjunction with MA in Elementary Education*

### Certificates of Graduate Study in Elementary School Mathematics

Louis Molinari, Program Advisor  
 Robinson Hall  
 856-256-4500 x3803  
 molinari@rowan.edu

*NOTE: These certificate programs are not designed for those who intend to matriculate in the master's degree program, although a student may elect to complete both areas of study.*

The certificate programs are not a State of New Jersey instructional certificate unless otherwise noted.

Upon successful completion of a prescribed program of 18 semester hours in either of these two areas, teachers will be awarded a Certificate of Graduate Study in the appropriate curriculum area.

The purpose of these programs is to provide an opportunity for teachers to increase and/or update teaching skills and knowledge of current resources, research findings and curriculum developments. Some of the courses in each program may be used in the department's advanced elementary teaching program leading to the Master of Arts degree. A careful check with the graduate advisor is recommended.

### Elementary School Mathematics

The first two courses may be taken concurrently. Both courses should be taken before the other courses in the program.

- 0802.550 Analysis of Classroom Teacher Behavior in the Elementary School
- 0802.540 Contemporary Curriculum Processes/Elementary Mathematics
- 0802.552 Piaget and Elementary Mathematics Education

Choose two from the following:

- 0802.556 Principles of Identification and Treatment of Mathematics Deficiencies
- 0802.517 Elementary Mathematics Clinic (Summer only)
- 0802.558 Principles of the Math-Lab/Learning Center Approach in Elementary School Math

The following course should be taken after all other requirements have been completed.

- \*0802.560 Research Seminar in Elementary Mathematics Education

### Certificates of Graduate Study in Elementary School Language Arts

Louis Molinari, Program Advisor  
 Robinson Hall  
 856-256-4500 x3803  
 molinari@rowan.edu

*NOTE: These certificate programs are not designed for those who intend to matriculate in the master's degree program, although a student may elect to complete both areas of study.*

The certificate programs are not a State of New Jersey instructional certificate unless otherwise noted.

### Elementary School Language Arts

The first two courses may be taken concurrently. Both courses should be taken before the other courses in the program.

- 0802.550 Analysis of Classroom Teacher Behavior in the Elementary School
- 0802.539 Contemporary Curriculum Process/Elementary Language Arts
- 0802.551 Diagnostic Teaching and Evaluation of Basic Language Arts Skills
- 0802.553 Use of Communications Media for Elementary Language Arts Instruction
- 0802.542 Linguistic Emphasis in Language Teaching
- \*0802.565 Research Seminar in Language Arts Education

*\*Generally taken as the final course of each program.*

## Certificate of Graduate Study in Early Childhood Education

Gwynne Lorraine Wylie, Program Advisor  
 Robinson Hall  
 856-256-4500 x3827  
 wyliel@rowan.edu

This program will assist classroom teachers of young children (preschool and primary grades) and related supervisory personnel to increase their knowledge of contemporary issues, recommended standards, organizational and curriculum strategies, and teaching practices so that the growth, development and learning of the children are enhanced. This certificate program is designed to meet the P-3 licensure requirements for teachers who hold standard New Jersey teaching certificates at other educational levels.

At the end of this program, students will be able to:

1. describe the important social, historical political, legal and philosophical constructs that impact on contemporary early childhood education practices, models and programs
2. relate milestone developmental characteristics associated with the continuum of children's growth and development in early childhood (birth to eight years) and the impact of home, community, health, and cultural experiences on development and learning
3. cite recommended standards for developmentally appropriate practices in early childhood education, and identify agencies, organizations and educators in leadership roles
4. develop curriculum strategies that nurture diversity and equity, the integration of play, and language and literacy across core curriculum content areas, and provide a safe and supportive classroom environment
5. explain the relationship and significant role of family and community in the education of young children and describe and/or design strategies for collaboration and involvement
6. use assessment strategies that are multidimensional and performance-based and responsive to cultural and linguistic differences.

## Course Requirements

*Required Courses* *10 S.H.*

0802.532	Contemporary Elementary/ Early Childhood Education: Standards & Program Models in ECE (3 s.h.)
0823.510	Curriculum Development in Early Childhood Programs (4 s.h.)
0818.550	Foundations of Early Childhood Special Education (3 s.h.)

*Elective Choice (choose 1)* *3 S.H.*

0802.550	Analysis of Classroom Teacher Behavior
0802.511	Learning Community Classrooms
0823.525	Play and the Learning Environment
0818.540	Motor Development in Atypical Preschool Children
0818.545	Language Development in Atypical Preschool Children

**TOTAL** **13 S.H.**

## Certificate of Graduate Study in Foreign Language Education

Jacqueline D. Benevento, Program Advisor  
 Robinson Hall  
 856-256-4649  
 benevento@rowan.edu

This program is designed to provide foreign language educators with opportunities for continued professional development as they explore issues and innovations in the field. Participants will investigate the implications of recent developments in linguistics, culture, and communication as they impact upon curriculum and instruction in foreign languages. Emphasis is placed upon the use of national and state standards. Topics include research into second language acquisition, the development and use of print and non-print resources, and new ways of integrating language and content. This program is appropriate for teachers wishing to enhance their knowledge and skills at all levels, for secondary school teachers new to teaching at the elementary and/or middle school level, and for those responsible for the development and articulation of curriculum and instruction in grades K-12.

**Required Courses**

*0840.512	Linguistics for Teaching Second Languages	3 S.H.
*0840.515	Language, Culture and Communication	3 S.H.
*0840.513	Extending the Foreign Language Sequence K-12	3 S.H.
*0840.505	Issues and Innovations in Foreign Language Education	3 S.H.

**PROGRAM TOTAL** **12 S.H.**

*Notes*

1. *Students may take the courses in any sequence, but those desiring the Certificate of Graduate Study must matriculate after 6 S.H.*
2. *\*Permission of the Program Advisor is required for each course.*
3. *The Certificate of Graduate Studies in Foreign Language Education is restricted to certified foreign (world) language teachers.*

*N.B. The Certificate of Graduate Study is not a State of New Jersey instructional certificate.*

## Graduate Certification Programs

### English as a Second Language and Bilingual Education Certification

Jacqueline D. Benevento, Program Advisor  
Robinson Hall  
856-256-4649  
benevento@rowan.edu

The English as a Second Language (ESL) Bilingual Education Certification Program is a non-degree program leading to a K-12 endorsement (second certificate) to standard New Jersey instructional certification in other teaching fields. (The bilingual/bicultural certificate is available only to individuals who hold standard New Jersey instructional certification for grade levels and subjects which can be taught in a bilingual setting; the appropriate instructional certificates are: elementary education; secondary education mathematics, science, social studies; and special education.)

**Course Requirements**

0821.530	Foundations of Multicultural Education
0840.510	Issues of Language and Cultural Diversity in ESL/Bilingual Programs
0840.512	Linguistics for Teaching Second Languages
0840.515	Language, Culture, and Communication
0840.517	Modern Developments in the Teaching of a Second Language
0840.520	Teaching ESL/Bilingual Education: Process & Practice or
0840.522	Integrating Language and Content in the ESL/Bilingual Education Classroom

**TOTAL** **18 S.H.**

*N.B. This program requires matriculation after the first two courses (6 semester hours) listed above.*

*Proficiency testing will be required in English for the ESL certificate and in other languages, as appropriate, for the Bilingual/Bicultural Education certificate.*

# COLLEGE OF ENGINEERING

Dianne Dorland, Dean  
Rowan Hall  
856-256-5300  
dorland@rowan.edu

Steven Chin, Associate Dean  
Rowan Hall  
856-256-5300  
chin@rowan.edu

## M.S., Engineering

Ralph A. Dusseau, Program Advisor  
Rowan Hall  
856-256-5322  
dusseau@rowan.edu

The Master of Science in Engineering program is designed to respond to the changing needs of today's engineers. The program aims to aid in the technological and economic development of southern New Jersey by providing post-baccalaureate educational opportunities for a diverse student body. The program was developed with the assistance of a National Advisory Council of internationally renowned leaders in engineering education and industry.

This degree program can be tailored to provide students with an opportunity to enhance the breadth of their education or to specialize in a technical area. The Master of Science in Engineering program will enable the student to:

1. have access to higher level study leading to a graduate degree or professional development
2. understand higher level technical principles, beyond the scope of a bachelor's degree, that can be used to identify and solve problems
3. increase the breadth of understanding and application of engineering principles.

Rowan University engineering graduates are eligible to apply for the five-year BS-MS Program which permits students to complete the M.S. program in Engineering in one calendar year following the awarding of the undergraduate degree. Accepted students begin the program on June 1

after their undergraduate graduation in May. These students are eligible to apply for a graduate assistantship for the full calendar year (June-May). Additional information can be obtained from the graduate program advisor.

In addition to the University requirements for entrance into a graduate program, the following are required:

1. A bachelor of science in engineering from a program accredited by the Accreditation Board for Engineering and Technology (ABET) or equivalent degree
2. Students holding a bachelor's degree in science or mathematics disciplines can be admitted into the program provided they have completed all the course requirements listed in Group A and any 6 courses from Group B.

### Group A:

Chemistry I, Physics I, Calculus I-III  
Computer Programming  
Differential Equations

### Group B:

Physics II, Statics, Solid Mechanics, Engineering Materials, Dynamics, Thermodynamics, Fluid Mechanics, Chemistry II, Transfer Processes, Chemical Process Principles, Physical Chemistry I, Organic Chemistry I, Reaction Engineering, Electromagnetics, Separation Processes, Network Theory, Digital Signal Processing, Electronics, Communication Theory, Control Systems, Data Communication & Networking, Operating Systems, Digital Design, Principles of Digital Computers, Numerical Analysis, Partial Differential Equations

*NOTE: Students should review their transcripts with the graduate advisor to develop a course plan for the degree program.*

### General Requirements

The Master of Science in Engineering requires 30 semester hours of graduate level courses and independent study. Each student is assigned a graduate advisor who must approve the student's

program, subject to the guidelines of the University and the College of Engineering. With the assistance of the advisor, students choose courses leading to one of five areas of specialization.

*I. Required Common Core 6-9 S.H.*

Mathematics I: Engineering Application of Analysis Engineering Applications of Computers (or equivalent level computational course in a specific field)

One business course from those listed below:

Quantitative Methods for Business Decision Making

Managerial Economics

Principles of Management Science

Strategic Engineering Management

Students may substitute for required courses by demonstrating equivalent course proficiencies determined by the graduate advisor.

All technical electives must be approved by the student's graduate advisor.

*II. M.S. with Specialization 15 S.H.*

Students must complete a minimum of 15 credits in one of the following specializations:

A. CHEMICAL ENGINEERING

- 0901.511 Engineering Optimization
- 0906.502 Special Topics in Chemical Engineering
- 0906.506 Process Heat Transfer
- 0906.508 Membrane Process Technology
- 0906.510 Biochemical Engineering
- 0906.512 Safety in the Process Industries
- 0906.514 Transport Phenomena for Engineers
- 0906.515 Advanced Reactor Design
- 0906.516 Advanced Separation Process Technology
- 0906.518 Polymer Engineering
- 0906.520 Green Engineering Design in the Chemical Industry
- 0906.528 Fluid Flow Applications in Processing and Manufacturing
- 0906.568 Electrochemical Engineering
- 0906.570 Air Pollution Control
- 0906.572 Biomedical Process Engineering
- 0906.574 Advances in Particle Technology
- 0906.576 Bioseparation Processes
- 0906.577 Advanced Engineering Process Analysis and Experimental Design

- 0906.579 Industrial Process Pathway
- 0906.580 Optimization of Engineering Projects
- 0906.581 Advanced Process Analysis
- 0906.582 Food Engineering Systems
- 0906.583 Engineering Exercise Dynamics

B. CIVIL ENGINEERING

- 0901.502 Finite Element Analysis
- 0901.511 Engineering Optimization
- 0908.503 Special Topics in Civil Engineering
- 0908.504 Engineering Estimating
- 0908.552 Foundation Engineering
- 0908.553 Earth Retaining Systems
- 0908.562 Advanced Transportation Engineering
- 0908.563 Advanced Transportation Planning, Demand, and Data Analysis
- 0908.564 Advanced Design of Elements of Transportation Engineering
- 0908.565 Advanced Pavement Analysis and Evaluation
- 0908.573 Advanced Structural Analysis
- 0908.584 Prestressed Concrete
- 0908.585 Advanced Reinforced Concrete
- 0908.586 Bridge Engineering
- 0908.587 Masonry and Wood Structures

Up to 3 courses from Environmental or Water Resources Engineering may be selected.

C. ENVIRONMENTAL ENGINEERING

- 0901.502 Finite Element Analysis
- 0901.511 Engineering Optimization
- 0906.502 Special Topics in Chemical Engineering
- 0906.506 Process Heat Transfer
- 0906.508 Membrane Process Technology
- 0906.512 Safety in Process Industries
- 0906.516 Advanced Separation Process Technology
- 0906.520 Environmental Design in Industry
- 0908.503 Special Topics in Civil Engineering
- 0908.512 Advanced Environmental Treatment Process Principles
- 0908.522 Site Remediation Engineering
- 0908.531 Solid and Hazardous Waste Management
- 0908.532 Pollutant Fate and Transport
- 0908.533 Integrated Solid Waste Management
- 0908.543 Advanced Water Resources Engineering

- 0908.544 Hydraulic Design
- 0908.545 Environmental Fluid Mechanics
- 0910.511 Combustion
- D. ELECTRICAL ENGINEERING
  - 0901.511 Engineering Optimization
  - 0909.504 Special Topics in Electrical Engineering
  - 0909.551 Digital Signal Processing
  - 0909.552 Digital Image Processing
  - 0909.553 Digital Speech Processing
  - 0909.554 Theory and Engineering Applications of Wavelets
  - 0909.560 Artificial Neural Networks
  - 0909.571 Instrumentation
- E. MECHANICAL ENGINEERING
  - 0901.502 Finite Element Analysis
  - 0901.511 Engineering Optimization
  - 0910.501 Computer Integrated Manufacturing and Automation
  - 0910.505 Special Topics in Mechanical Engineering
  - 0910.511 Combustion
  - 0910.512 Rocket Propulsion
  - 0910.514 Energy Conversion Systems
  - 0910.521 Gas Dynamics
  - 0910.522 Computational Fluid Dynamics
  - 0910.541 Advanced Mechanism Design
  - 0910.551 Mechanics of Continuous Media
  - 0910.552 Structural Acoustics
  - 0910.553 Analytical Dynamics
  - 0910.575 Fundamentals of Crash Safety Engineering

*III. M.S. without Specialization 21-24 S.H.*  
All courses must be approved by the student's graduate advisor.

*IV. Thesis/Project 6-9 S.H.*  
Students may participate in project work, choosing one of two options:

OPTION I: THESIS RESEARCH/ENGINEERING PROJECT (6 TO 9 S.H.)  
Research leading to a master's thesis carried out under the supervision of a Rowan engineering faculty member. Successful completion of the thesis includes satisfactory oral and written reports to a thesis committee. The thesis committee may include members from industry or from other colleges in the University. A project identified by a faculty member, a student or industry and approved by the graduate program advisor can fill the Option I requirement.

OPTION II: LEADERSHIP OF CLINIC PROJECT (MAXIMUM OF 6 S.H.)  
Students, under the supervision of a faculty member, may serve as advisors in clinic projects. In addition to a clinic report to the client, the graduate student must present a satisfactory written and oral report to a Rowan University Graduate Committee chaired by the clinic faculty advisor.  
Students who are excused from any of these options must take additional technical electives to complete the 30 semester hours required in the program.

**TOTAL 30 S.H.**

*NOTE: Additional courses are being developed in each of the specializations.*

# COLLEGE OF FINE AND PERFORMING ARTS

Donald L. Gephardt, Dean  
Wilson Hall  
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gephardt@rowan.edu

## Mission - College of Fine and Performing Arts

As a discipline with a long and significant tradition, the arts are uniquely positioned to impart the qualities of discernment and creativity that contribute to the development of the whole person. The College of Fine and Performing Arts fosters a dynamic intellectual and creative environment that produces transcendent experiences of discovery and expression. The College nurtures authentic learning communities through rigorous degree programs that educate artists of the future and provides classroom and applied arts experiences for non-majors and enriching programs for the public.

## Accreditations

Art - National Association of Schools of Art & Design,

Music - National Association of Schools of Music,

Theatre - National Association of Schools of Theatre

Programs Offered

Master of Music,

Master of Arts - Music Education,

Master of Arts - Theatre

## M.A., Theatre

The Master of Arts in Theatre is designed to balance scholarly inquiry in theatre history and criticism with study of practical theatrical technique. Graduates of this program gain a stronger foundation in theatrical history and criticism, and can choose to study all aspects of theatre practice, or focus on advanced study in a specific area of interest. While intended to provide enhanced theatre study for secondary school teachers this program also provides a strong foundation for doctoral study.

## Additional Admission Requirements

The student must fulfill all the admission requirements for The Graduate School. In addition, the student must have an undergraduate degree in theatre or in another discipline with sufficient undergraduate course work and/or practical experience in theatre as determined by the department. Those with deficiencies may be admitted with the provision that they complete any undergraduate theatre course work deemed necessary.

## Course Requirements

<i>Required courses</i>	<i>14 S.H.</i>
1007.501	Introduction to Graduate Study in Theatre
1007.502	Studies in World Theatre History and Criticism
1007.503	Studies in American Theatre History and Criticism
1007.520	Thesis Research and Writing

*Electives* 18 S.H.

- 12-18 S.H. FROM:
- 1007.504 Seminar in Contemporary World Theatre and Drama
  - 1007.506 Scenography: Process and Product
  - 1007.507 Challenges in Design and Technical Production
  - 1007.508 Seminar in Directing: Working With the Actor
  - 1007.509 Special Problems in Directing
  - 1007.510 Musical Theatre Production
- 0-6 S.H. FROM:
- 1007.505 Independent Graduate Study in Theatre
  - 1007.515 Graduate Internship in Theatre
  - 1007.511 Graduate Production/Performance Project

**TOTAL** **32 S.H.**

To receive the degree, students must complete the 32 semester hours of course work with a G.P.A. of at least 3.0. They must also have completed a thesis approved by a committee composed of the student's advisor and two other faculty designated by the department.

**Certificate of Graduate Study in Theatre Practice**

Phillip Graneto, Program Advisor  
 Bunce Hall  
 856-256-4392  
 graneto@rowan.edu

The Certificate Program in Theatre Practice provides students with advanced study designed to increase skill in practical aspects of theatre. This program seeks to increase student knowledge across a broad spectrum of theatrical techniques, and is primarily designed to enhance the skills of secondary school teachers actively involved in theatrical production. This program will also serve the beginning theatre professional seeking to improve staging and performance skill, the avocational theatre artist wanting additional training, or professionals in other related fields wishing to enhance their careers with training in theatrical staging and performance.

**Required Courses** **6 S.H.**

- 1007.508 Seminar in Directing: Working with the Actor
- 1007.506 Scenography: Process and Product

**Elective Courses** **9 S.H.**

- 1007.509 Special Problems in Directing
- 1007.507 Challenges in Design and Technical Production
- 1007.510 Musical Theatre Production
- 1007.515 Internship in Theatre (3-6)
- 1007.511 Production/Performance Project (3-6)

**TOTAL** **15 S.H.**

Graduate courses transferred from other schools are subject to review for their acceptability and applicability to Rowan's requirements. However, no more than 6 semester hours may be applied toward credit for earning this certificate.

**Master of Music**

Bryan K Appleby-Wineberg, Program Advisor  
 Wilson Hall  
 856-256-4500 x 3526  
 applebywineberg@rowan.edu

The Master of Music program provides for intensive development of performance skills, broad knowledge of the literature in the area of specialization and greater understanding of the musical profession. Graduates of the program may continue their performance studies on the doctoral level or find employment as performers or independent teachers.

**Additional Admission Requirements:**

The student must fulfill all the admissions requirements of The Graduate School. In addition, it is expected that the earned undergraduate degree will be in Music. If not, the student must satisfy the admission committee, through audition and interview, that he/she possesses the appropriate background for successful completion of the program. An audition is required for all applicants. Taped auditions are permissible only if the student lives more than 300 miles from Glassboro, New Jersey. Composition students must prepare and present a portfolio of their works in lieu of an audition. All students will be required to take theory and history placement exams the first week of classes.



**Course Requirements**

*Required Core* 21-27 S.H.

- 1004.xxx Graduate Applied Music
  - 1004.560 Form and Analysis  
or
  - 1004.540 Jazz Arranging and Composition
  - 1005.547 Music and the Related Arts
  - Elective: Music Elective, Interdisciplinary course or foreign language
- Ensemble experience (suitable to specialization),  
Guitar or Piano Accompanying Area of  
Specialization:

**INSTRUMENTAL/KEYBOARD**

- 1004.536 Chamber Music I
- 1004.537 Chamber Music II
- 1006.546 Symphonic Literature  
or
- 1006.542 Opera Literature
- Elective  
or
- 1006.509 String Literature  
or
- 1006.505 History and Literature of Lute and Guitar
- 1006.510 Keyboard Literature

**GUITAR PEDAGOGY: GUITARISTS**

**PIANO PEDAGOGY: PIANISTS**

**TOTAL** 34-38 S.H.

**COMPOSITION**

- 1004.570 20th Century Literature and Techniques
- 1004.50x Applied Instrument

**MUSIC THEORY/PEDAGOGY**

Music Elective

**TOTAL** 34-38 S.H.

**JAZZ STUDIES**

- 1006.503 Jazz History
- 1004.575 CD Project
- 1004.541 Jazz Piano (Non-Keyboard Spec.)  
Music Elective

**TOTAL** 31-37 S.H.

**VOCAL**

- 1006.542 Opera Literature
- 1006.506 Art Song
- 1004.551 Piano Accompanying

**ITALIAN, GERMAN OR FRENCH**

**TOTAL** 34-38 S.H.

**CONDUCTING (INSTRUMENTAL OR CHORAL)**

- 1006.511 Survey of 20th Century Band Literature  
or
- 1006.546 Symphonic Literature  
or
- Choral Literature
- 1004.565 Seminar in Band Conducting  
or
- 1006.542 Opera Literature
- 1004.557 Advanced Orchestration  
or
- French or German
- 1004.561 Score Reading I
- 1004.562 Score Reading II

**TOTAL** 31-38 S.H.

*Note: Specialization requirements may be modified only by permission of program advisor.*

# COLLEGE OF LIBERAL ARTS AND SCIENCES

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Bosshart Hall  
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Cindy Lynch, Assistant Dean  
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The College of Liberal Arts and Sciences celebrates and affirms the humanities, natural sciences, behavioral and social sciences as the core of liberal education and the basis for professional preparation. Committed to excellence in instruction and scholarship, its disciplines promote rigorous inquiry, analytical and integrative reasoning, and decision making skills. The College offers educational experiences designed to enhance the intellectual development, current and future careers, and the overall quality of life of our students. The various curricula in the College combine the richness of liberal arts and sciences theories and traditions with applications for the workplace in the new millennium. In all of its offerings, the College plays an essential role in Rowan's mission to educate students who remain life-long learners and responsible citizens of diverse communities.

## Programs Offered

The College currently offers degree programs leading to a Master of Arts in Mathematics and a Master of Arts in Mental Health Counseling and Applied Psychology. Also recently approved to offer a Master of Arts in Criminal Justice. The College of Liberal Arts and Sciences significantly supports graduate degrees in the College of Education including School Psychology, Educational Services: School Psychologist Certification and Subject Matter Teaching in Mathematics, Biological Science and Chemistry and Physics.

## M.A., Mathematics

Marcus Wright, Program Advisor  
Robinson Hall  
856-256-4500 x 3873  
wright@rowan.edu

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 and 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 has been of special interest to high school teachers seeking to enrich their knowledge of mathematics. The graduate course work will fill gaps and broaden and extend the undergraduate mathematics background of each student. There is sufficient flexibility in the program for students to tailor their curriculum to meet their needs.

## Additional Admission Requirements

In addition to the basic requirements for graduate admissions, the applicant for the Master of Arts in Mathematics will usually be expected to have completed a minimum of 30 semester hours of mathematics at the undergraduate level, including courses in calculus through vector calculus, linear algebra, and abstract algebra.

## Graduation Requirements

In addition to the course requirements outlined below, students will pass a comprehensive examination given by the Department of Mathematics.

## Course Requirements

Students will complete a minimum of 30 semester hours of graduate credits in mathematics.

Twelve semester hours will provide a core experience for all graduate students, including two courses in analysis, an advanced course in linear algebra, and a choice of topology or a course in the foundations of mathematics.

Students will also complete 6-9 s.h. from Bank A, 6-9 s.h. from Bank B, and a minimum of 3 s.h. in Seminar and Research. Students should enroll in the required core courses first. The Mathematics Seminar is required and should be taken after most of the course work is completed. The comprehensive exam is usually taken during the Mathematics Seminar.

### *I. Required Core* *12 S.H.*

- 1701.502 Linear Algebra and Matrix Theory
- 1701.510 Real Analysis I
- 1701.512 Complex Analysis I
- 1701.526 Point Set Topology
- or
- 1701.500 Foundations of Mathematics

### *II. Bank A* *6-9 S.H.*

- 1701.505 Probability & Statistics
- 1701.511 Real Analysis II
- 1701.513 Complex Analysis II
- 1701.524 Abstract Algebra I

### *III. Bank B* *6-9 S.H.*

- 1701.503 Number Theory
- 1701.504 Mathematical Logic
- 1701.507 Differential Geometry
- 1703.511 Operations Research I
- 1703.512 Operations Research II
- 1701.520 Topics-Applied Mathematics
- 1701.521 Non-Linear Differential Equations
- 1701.522 History of Mathematics
- 1701.525 Modern Geometry
- 1701.527 Abstract Algebra II
- 1701.529 Numerical Analysis
- 1703.550 Topics-Discrete Mathematics

### *IV. Seminar and Research* *3-6 S.H.*

- 1701.533 Graduate Seminar in  
Mathematics (required)
- 1701.550 Independent Study

**TOTAL**

**30-33 S.H.**

## M.A., Mental Health Counseling and Applied Psychology

James A. Haugh, Program Advisor  
Robinson Hall  
856-256-4500, x3781  
haugh@rowan.edu

The focus of the 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 and other problems such as child abuse and neglect and domestic violence. Students will receive a comprehensive background in the psychological 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 developing strong skills in differential diagnosis, the ability to conceptualize treatment plans and the use of empirically supported treatment approaches. Students are also required to complete at least 600 hours of supervised practice in a mental health setting.

This program prepares students to become mental health counselors and provides the course work necessary to apply for certification as a Licensed Professional Counselor (LPC) in New Jersey and certification by the National Board of Certified Counselors (NBCC). However, completion of the masters' program course work is only one part of the requirements for the LPC and NBCC certifications. Specifically, the masters program consists of 48 credit hours with 12 hours of post-masters' credits available. Combining the 48 credits within the masters program with the 12 credits of post-masters' certification provides the 60 credits of graduate work required for the LPC and NBCC certification.

In addition to meeting the University requirements, this program requires completion of 12 s.h. of undergraduate psychology including at least one statistics and research methods course and one course in abnormal psychology. Some experience within a mental health setting is also strongly encouraged (e.g., field experience, volunteer work, employment).

### Masters Program Coursework

2001.570	Research Methodology and Statistics in Counseling Psychology
2001.610	Career and Lifestyle Development
2001.611	Counseling and Psychotherapy
2001.612	Group Counseling and Psychotherapy
2001.620	Legal and Ethical Issues in Counseling
2001.621	Psychopathology
2001.650	Practicum in Counseling (1 - 3 credits)
2001.650	Practicum in Counseling (2 - 6 credits)
2001.685	Masters Thesis in Psychology I (3 credits)
2001.687	Masters Thesis in Psychology II (3 credits)
2005.501	Intervention Approaches in Psychology and Human Services
2005.610	Social and Cultural Diversity
2006.533	Tests and Measurements
2009.560	Lifespan Development
2009.595	Introduction to Counseling

**TOTAL** **48 S.H.**

### Certificate of Advanced Graduate Study in Mental Health Counseling

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 856-256-4500 x 3781  
 haugh@rowan.edu

This certificate program consists of 12 credit hours of advanced graduate study. The graduate certificate program is intended for individuals who have already completed a master's degree in counseling psychology and need additional graduate course work in order to qualify for state licensure and national certification. Additionally, the program is available for mental health professionals in the community seeking to enhance their professional development. The courses within the certificate are intended to be advanced courses within the profession that will allow students to improve their practical knowledge and skills.

### Admission to the Program:

In addition to the minimum requirements of the University for admission, this program requires a master's degree from an accredited institution in counseling psychology or a closely related field. In addition, applicants are required to submit their graduate transcripts and one letter of recommendation.

Students may complete any of the four courses listed below:

2003.620	Cognitive Behavioral Treatment Strategies
2003.624	Psychopathology of Childhood and Adolescence
2010.610	Psychopharmacology
2001.630	Family Systems and Family Therapy
2005.502	Fundamentals of Drug and Alcohol Abuse and Dependency
2003.518	Psychological Evaluation and Counseling Service to Combat Alcohol and Drug Abuse

**TOTAL** **12 S.H.**

### Substance Awareness Coordinator Certification

Linda Jeffrey, Program Advisor  
 Robinson Hall  
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A state law passed in January 1988 requires school districts to set up substance abuse prevention, intervention, and treatment referral programs. The legislation also mandates that substance awareness coordinators be designated to serve school districts in all areas of the state. These individuals must:

1. assist with the in-service training of school staff concerning substance abuse issues and the district program to combat substance abuse
2. serve as an information resource for substance abuse curriculum development and instruction

3. help districts revise and implement substance abuse policies and procedures
4. provide counseling services to pupils regarding substance abuse problems
5. and, where necessary, cooperate with juvenile justice officials in offering substance abuse treatment services

### Admission to the Program

In addition to the minimum requirements of the University for admission, this program requires a bachelor's degree from an accredited institution in health, psychology, human services, social work, or a field leading to teacher certification.

Students may complete only two courses in this program prior to acceptance as a fully matriculated student.

### Course Requirements

In order to satisfy the academic requirements for State Substance Awareness Coordinator (SAC) certification, all of the following courses must be completed at Rowan University.

2005.502	Fundamentals of Drug and Alcohol Abuse and Dependency
2009.512	Developmental Psychology of Drug and Alcohol Abuse
2003.518	Psychological Evaluation and Counseling Services to Combat Alcohol and Drug Abuse
0837.525	Curriculum Strategies in Substance Awareness

**TOTAL**

**12 S.H.**

### Curriculum Description

The curriculum (above) for the SAC certification program are courses taught by faculty from the departments of Health/Exercise Science and Psychology.

The twelve semester hours are designed to be completed over two consecutive semesters.

Students who take longer than one academic year to complete the certificate program must follow the specific course sequence prescribed by course prerequisites. Students have a maximum of four years from the date of matriculation to complete the program.

A state-approved school district-based residency is also required before the award of the SAC certificate. Details regarding this 300 hour requirement as well as other State requirements are available from the New Jersey Department of Education.

# COURSE DESCRIPTIONS

## 0401 Biology

### 0401.500 Evolutionary Theory 3 s.h.

*(Prerequisite: 6 credits in Biology or instructor's permission)*

Historical development of the principles of organic evolution; modern application of genetics and cytology to the understanding of the nature of this process. This course may not be offered annually.

## 0404 Plant Morphology

### 0404.579 Comparative Morphology of Vascular Plants 3 s.h.

*(Prerequisite: 0402.200, 0402.201)*

Investigation of vascular plants by comparison of morphological features and reproductive cycles of selected forms in the Psilopsida, Lycopsidea, Sphenopsida and Pteropsida. Introduction of Paleobotanical information to provide a background for the origin, evolution and phylogeny of the surviving types of these groups. Lecture and laboratory. This course may not be offered annually.

## 0406 Plant Physiology

### 0406.580 Plant Physiology 3 s.h.

*(Prerequisite: 0402.200, 0402.201, 1907.200, or permission of instructor)*

Principles and factors concerned with development of plants: Nutrition, water relationships, photosynthesis, chemosynthesis, reproduction, growth. This course may not be offered annually.

## 0410 Physiology, Human & Animal

### 0410.587 Animal Physiology 3 s.h.

*(Prerequisite: 0401.100, 0401.101)*

A study of physiological control systems and vegetative activities of animals in various invertebrate and vertebrate phyla relative to cellular regulation, osmo-regulation, ionic regulation, regulation of pH, blood flow regulation, nutritive requirements, feeding, digestion, absorption, body fluids, respiration, and intermediary metabolism. This course may not be offered annually.

## 0414 Biochemistry

### 0414.540 Introduction to Biochemistry I 3 s.h.

*(Prerequisite: 1907.201, 0401.100, 0401.101)*

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.

### 0414.548 Biochemistry I— Lecture and Lab 4 s.h.

*(Prerequisite: 1907.201)*

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.

## 0420 Ecology

### 0420.525 Environmental Toxicology 4 s.h.

*(Prerequisite: 0401.100, 0401.101, 1906.100 or 1906.101, 1907.200, 0420.310)*

This course covers topics related to the fate and impact of pollutants in the environment. This course deals with laws and regulations regarding pollutant discharges, the kinds of chemical pollutants, the transport and distribution of such chemicals into the environment, and their effect on population and communities as well as individual organisms. The acute and chronic effect of these pollutants, the principles of environmental monitoring and assessment, and special examples and case studies will be analyzed. Hands-on research will be carried out in toxicological testing during the semester.

**0420.594 Synecology 3 s.h.**

*(Prerequisite: 0420.310)*

The relationships of plants and animals to measurable components of their physical, chemical and biotic environments; ecology, environmental concepts; physiochemical aspects of the atmosphere, soils and bodies of water, the species and inter-specific relationships, community and succession, productivity. Lecture and laboratory. This course may not be offered annually.

**0420.595 Pine Barrens Ecology 3 s.h.**

*(Prerequisite: 0420.594)*

Field-laboratory experience investigating the unique Pine Barrens of New Jersey to understand what it is, how it became what it is and conditions which tend to maintain it.

**0422 Genetics**

**0422.598 Human Genetics 3 s.h.**

*(Prerequisite: 0401.100, 0401.101, 0422.335 or permission of the instructor)*

Patterns of transmission of single gene traits, human biochemical genetics, autosomal and sex-linked chromosomal anomalies, immunogenetics and blood groups, screening for genetic diseases and prenatal diagnosis. Lecture, laboratory sessions or the equivalent. This course may not be offered annually.

**0427 Embryology**

**0427.597 General Embryology of Animals 3 s.h.**

*(Prerequisite: 0401.100, 0401.101)*

This laboratory course focuses on morphologic and physiologic processes involved in the development of embryos from fertilization and the 1-cell stage to the newborn/newly-hatched. The course includes the development of invertebrates, amphibians, birds, and mammals.

**0501 Business, General**

**0501.518 Integrative Managerial Skills 3 s.h.**

*(Prerequisite: Admission to M.B.A. Program or permission of M.B.A. Program Director )*

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.

**0501.521 Integrative M.B.A. Seminar 3 s.h.**

*(Prerequisite: Completion of all core courses in the M.B.A. curriculum or permission of the instructor)*

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.

**0501.600 Special Topics in Business Administration 3 s.h.**

(Students may elect two special topic courses.) Students will study advanced level topics in specific disciplines as identified through participation in in-depth 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.

**0503 Accounting**

**0503.500 Managerial Accounting 3 s.h.**

*(Prerequisite: 0501.518 or permission of MBA director)*

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.

**0503.502 Advanced Managerial Accounting 3 s.h.**

*(Prerequisite: 0503.426 or 0503.500)*

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.

**0503.503 Corporate and Partnership Taxes 3 s.h.**

*(Prerequisite: 0503.316 or equivalent course)*

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.

**0503.504 Seminar in Auditing 3 s.h.**

*(Prerequisite: 0503.410 or equivalent course)*

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.

**0503.505 Seminar in Business Law 3 s.h.**

*(Prerequisite: 1498.242 or equivalent course)*

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.

**0503.506 Advanced Domestic & International Accounting 3 s.h.**

*(Prerequisite: 0503.311 or equivalent course)*

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.

**0503.507 Government and Non-for-Profit Accounting 3 s.h.**

*(Prerequisite: 0503.311 or equivalent course)*

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.

**0503.508 Seminar and Research in Accounting 3 s.h.**

*(Prerequisite: 15 credit hours at the graduate level in Accounting)*

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 business 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.

**0503.509 Intermediate Financial Accounting 3 s.h.**

*(Prerequisite: 0503.211)*

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.

**0503.510 Financial Statement Analysis 3 s.h.**

*(Prerequisite: 0503.500 or 0503.509 or permission of MS Program Director)*

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.

**0504 Finance**

**0504.500 Managerial Finance 3 s.h.**

*(Prerequisite: 0503.500 and 0501.518)*

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 rela-



tion 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.

**0504.512 Capital Budgeting 3 s.h.**  
(Prerequisite: 0504.500)

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.

**0504.516 Issues in Finance 3 s.h.**  
(Prerequisite: 0504.500)

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.

**0504.600 Investment/Portfolio Analysis 3 s.h.**  
(Prerequisite: 0504.500)

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.

## **0506 Business Management**

**0506.500 Organization Behavior 3 s.h.**  
(Prerequisite: Completion of, or concurrent enrollment with, 0501.518 )

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.

**0506.501 Advanced Operations Management and Strategy 3 s.h.**

(Prerequisite: 0501.518)

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.

**0506.502 International Business and Society 3 s.h.**

(Prerequisite: Completion of, or concurrent with, 0501.518 )

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.

**0506.503 Organization Development 3 s.h.**  
(Prerequisite: 0501.518)

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.

**0506.601 Strategic Planning for Operating Managers 3 s.h.**

(Prerequisite: 0501.518)

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.

## 0507 Operations Research

### 0507.500 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.

### 0507.600 Business Forecasting 3 s.h. (Prerequisite: 0501.518 or 0507.500)

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.

## 0509 Marketing

### 0509.500 Marketing Management 3 s.h. (Prerequisite: Completion of, or concurrent with, 0501.518 )

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.

### 0509.501 Consumer Analysis 3 s.h. (Prerequisite: 0509.500 or permission of instructor )

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.

### 0509.600 International Marketing 3 s.h. (Prerequisite: 0509.500, or permission of instructor)

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.

## 0601 Communication Studies

### 0601.500 Working with Printers, Clients, and Colleagues to Produce an Effective Publication 5 s.h.

Students will learn how to establish rapport with printers and clients so the best printing can be delivered for the lowest price. Students will learn to plan publications schedules and how to anticipate and overcome deadline challenges. Writing specifications for bids will be covered.

### 0601.501 Basic Typography and Design .5 s.h.

Students will learn the basics of typography and design. How to use type effectively and how to design a functional page for various kinds of readers will be emphasized.

### 0601.502 Advanced Typography and Design 1 s.h. (Prerequisite: 0601.501)

Students will learn how to locate and evaluate research on typography and design. They will learn how to apply research findings regarding type size, line length, headlines, white space, color, photos, etc. to prepare outstanding publications.

### 0601.503 Getting the Most out of Art and Photography in Your Publication 5 s.h.

Students will learn how to use photographs, clip art and other artwork to make a publication effective. Choosing the right art and knowing when to use which kind will be emphasized, as will computer use.

### 0601.504 Copyfitting and Paste-up 1 s.h.

Students will learn how to count copy so they can fit copy on a page. Students will learn how to

paste up pages for the printer and for the camera. Hands-on experience will be offered, emphasizing the use of Quark Express.

**0601.505 Publications Potpourri: What the Professionals Do to Assure Publication Effectiveness and Award-winning Publications .5 s.h.**

Students will learn publication trends as determined from award-winning efforts nationally. They will also learn how to determine audience reaction to publications and how to evaluate their effectiveness.

**0601.506 Newswriting 1 s.h.**

Students will learn journalistic style and how to prepare effective news releases. Selecting news topics and writing succinctly will be emphasized.

**0601.507 Tightening Writing and Translating Jargon to Comfortable Language .5 s.h.**

Students will learn to edit the way professional writers do, getting the most from every word. Emphasis will be placed on writing so lay readers can understand. Students will learn how to use the fog index to help themselves and others write better.

**0601.508 Writing Effective Newsletter and Brochure Copy .5 s.h.**

Students will learn how to write copy that commands the attention of different types of newsletter and brochure readers. Writing for the client and for the reader will be emphasized.

**0601.509 Writing Leads That Get Attention .5 s.h.**

Students will learn how to gain readers' attention by writing effective leads. Emphasis will be placed on writing the first paragraph or two of news stories, reports and memos.

**0601.510 Writing Reports, Letters and Memos .5 s.h.**

Students will learn how to write reports, memos and letters that communicate effectively with various kinds of readers. Informative and persuasive writing efforts will be emphasized.

**0601.511 Writing Speeches .5 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.

**0601.512 Interviewing Techniques and Research Organization .5 s.h.**

A short-term course designed to familiarize students and practitioners with a variety of ways to conduct interviews and organize research. Students will be able to develop stories through proven interviewing techniques. Professors will give helpful hints on how to organize and outline data. Creative writing and overcoming writers' block will also be explored.

**0601.513 Feature Writing .5 s.h.**

Students will learn how to prepare and place feature stories for newspapers, journals and magazines.

**0601.514 Persuasive Writing .5 s.h.**

Students will learn in this module additional technical skills in modifying opinion through writing. Students will have the opportunity to offer their own writing critique by professors and professionals in the field. Students will receive a personal checklist of their persuasive writing needs during the course.

**0601.516 Using Film in Public Relations .5 s.h.**

The techniques of making a film and its use in a public relations program will be the content of the course. Appropriate film subjects, film principles, the planning of a story, production practices and the effective use of film in PR will be covered.

**0601.517 Working With Radio and T.V. 1 s.h.**

Students will learn how electronic media requirements differ from print media. They will learn how to prepare public service and news announcements for radio and television.

**0601.518 Publications Layout and Design 3 s.h.**

This course stresses skill in the development and supervision of brochure layout, typography, and editing methods, and the preparation of professional publications of various kinds. Included in this course are these five publications modules: 0601.500, 0601.501, 0601.503, 0601.504 and 0601.505.

**0601.519 Using Audio/Visuals in Public Relations .5 s.h.**

This module will assist students and practitioners with a print background to make the electronic leap to contemporary Public Relations practices. The course will help make practitioners more comfortable with various audio-visual tools.

**0601.520 Preparing Effective Displays and Exhibits for Public Relations .5 s.h.**

The course will show students how to plan, set up, and evaluate effective exhibits and displays for public relations purposes. As part of this, students will study the importance of exhibits and displays, as well as the types that would be most effective in communicating with various audiences.

**0601.524 Fundraising and Development 1 .5 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.

**0601.525 Making Effective Presentations .5 s.h.**

Students will learn how to prepare effective presentations. Included will be knowing and involving the audience, pacing the presentation and using audio/visual materials and handouts.

**0601.526 Planning and Conducting Workshops and Conferences .5 s.h.**

Students will learn how to plan and conduct workshops. Included will be involving the audience in planning, choosing sites, working with speakers and evaluating the workshop.

**0601.527 Planning and Conducting Special Events .5 s.h.**

This course will survey the problems and solutions surrounding the staging of special events in the practice of public relations. Events like ground-breakings, news conferences, dignitary visits, seminars, anniversary celebrations and many more pose planning and implementation problems for the practitioner. Students will anticipate and solve those problems and have the option to make plans of their own for upcoming events.

**0601.528 Communications With Special Publics .5 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.

**0601.529 Using Advertising to Your Best Advantage .5 s.h.**

Students will learn how to use advertising in the public relations field to the best advantage of their organization or client. They will study the role, advantages, uses, placement, problems and legal implications of advertising. Included will be creative work in planning and writing advertisements and commercials.

**0601.530 Internal Communications in Organizations .5 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.

**0601.531 Media Planning and Buying .5 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.

**0601.532 Media Relations .5 s.h.**

Students will learn how the various media are organized and what kinds of news the media representatives seek. Knowing what news is and delivering it to the right people will be emphasized. Conducting a news conference and the importance of accessibility will be covered.

**0601.533 Crisis Public Relations .5 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.

**0601.534 Small Group Communications .5 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.

**0601.535 Interpersonal Communications .5 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.

**0601.536 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.

**0601.537 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.)

**0601.538 Legislative Liaison for Public Relations Practitioners 5 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.

**0601.539 Client Relationships 5 s.h.**

Students will study how to obtain and keep clients in the highly competitive field of public relations. They will be shown how to develop effective techniques to assure that the relationship between client and agency is a mutually beneficial one.

**0601.540 Marketing Communications 1 s.h.**

The relationship of marketing and public relations will be explored. Marketing techniques-including cost-effective ways of reaching key audiences-will be discussed, as will positioning, testing and evaluating.

**0601.541 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.

**0601.544 Public Relations Planning 2 s.h.**

This course will cover 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.

**0601.546 Contemporary Rhetoric 3 s.h.**

Contemporary Rhetoric introduces students to rhetorical theory and its applications. Students will be exposed to a brief history of rhetorical thought, the contributions of major theorists and movements, the practical implications of rhetorical theory, and the ways in which different groups use rhetoric. Contemporary perspectives on rhetoric will be emphasized. In addition to responses to theoretical works, students will produce an analysis of a text or texts from their own area of interest, investigating the application of rhetorical theories in a variety of environments.

**0601.547 Techniques in Communication 3 s.h.**

This course consists of five writing modules with varying credits: 0601.506-Newswriting, 0601.507-Tightening Writing and Translating from Jargon to Comfortable Language, 0601.509-Writing Leads That Get Attention, 0601.510-Writing Reports, Letters and Memos, and 0601.513-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.

**0601.549 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 perspec-

tives 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.

**0601.550 Introduction to 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.

**0601.551 Public Relations 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.

**0601.552 Organizational PR and Management 1 .5 s.h.**

Students will learn methods of informing the public about the function of the public relations office and practitioner in an organization, and the relationship of executives, middle managers and other employees to the public relations program. In addition, students will analyze all phases of public relations management, including determining and writing a budget, in-service training, agency service pricing and discounts, working with clients, and complying with SEC regulations on financial disclosures.

**0601.553 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.

**0601.554 Core I: Theories and Techniques of Writing 3 s.h.**

Core I offers an in-depth 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.

**0601.555 Writing for Electronic Communities 3 s.h.**

*(Prerequisite: Permission of instructor, graduate standing or approved senior-level undergraduate.)*

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.

**0601.556 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.

**0601.557 Advanced Feature Writing for Print Media 3 s.h.**

Students in this graduate level writing workshop will report and write eight publishable-quality features on varied topics. They will learn how to write feature leads and 'nut grafs' and how to structure long stories. They will also learn how to develop

and present story ideas to editors and how to submit completed work for publication.

**0601.558 Advanced Fiction Workshop 3 s.h.**

During this graduate level workshop, students will complete, through the composition of a first draft and several revisions, at least three full-length short stories or novel chapters of publishable quality. By participating in these workshop-style discussions and critiques of others' work, students will develop a critical and analytical vocabulary. Students will also learn how to prepare manuscripts and present them to editors and agents.

**0601.559 Core II: Research Methods for Writers 3 s.h.**

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.

**0601.560 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.

**0601.564 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.

**0601.610 Internship in Public Relations 3-6 s.h.**

*(Prerequisite: Permission of the program advisor.)*  
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.

**0601.618 Special Topics 3 s.h.**

**0601.620 Seminar in Public Relations 3-6 s.h.**

*(Prerequisite: Acceptance into the program and program advisor's permission., student must have completed or be enrolled in 0601.547,, 0601.550,, and 0601.551 )*

Each student will be required to develop a major communication project or thesis on any phase of educational or corporate communications. The project or thesis will display appropriate research procedures and skill in communications. Some seminar sessions will be used to provide additional communications 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, Techniques of Communication, and Communications Research.

**0602 Journalism**

**0602.505 Poetry Workshop 3 s.h.**

Poetry Workshop is designed to develop students' expertise in the art and craft of writing poetry. The focus of the course is on deepening one's understanding of the elements of poetry, such as diction, imagery, rhythm and rhyme, tension, compression, irony, etc. Students will study contemporary poets and understand the concepts of voice and style as they apply to individual writers, including themselves. Finally, students will write and critique their poetry in a workshop setting, and will strive to develop a collection of poetry suitable for publication.

**0602.510 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.

**0602.515 Literary Journalism 3 s.h.**

Literary Journalism teaches students the form, structure and technique of the genre. Students write works of nonfiction employing techniques usually associated with fiction or poetry, developing works that provide a unique insight into events, characters, and issues. During the course, students extensively analyze works of pioneering literary journalists as well as newly emerging practitioners of the genre, and write several major pieces, including profiles, personal experience, and reportage on social issues.

**0602.520 Writing the Novel 3 s.h.**

Writing the Novel teaches students the structure, technique, and apparatus of the novel, and provides feedback and guidance through extensive instructor critique and workshop-style evaluation of students' work in class. Students prepare a synopsis of a novel and four sample chapters, as well as an analysis of a favored author's work and a presentation to a mock editorial board that will make a decision about whether to publish the student's proposed work. Students also develop a clear understanding of the business end of writing and publishing book-length fiction.

**0602.521 Writing the Nonfiction Book 3 s.h.**

Writing 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 editorial 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.

**0602.522 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.

**0602.523 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.

**0699 Applied Communication**

**0699.521 How Media Affect Us 1 s.h.**

Addressed in this course will be the effect the mass media have on companies, businesses, and organizations and the development of practical strategies of working with the media. The press, radio, TV, magazines, and books will be reviewed from the perspective of their impact on organizations.

**0699.522 How Opinions and Attitudes are Formed and Changed: Persuasion Techniques 1 s.h.**

Students will study the difference between an attitude and opinion, the roots of opinions, the intensity, stability, and form of an opinion, the role of opinion leaders, and the nature of propaganda. Persuasive techniques of working with informed, educated, uneducated, uninformed, and hostile audiences will be covered.

**0699.523 How Polls and Surveys Work: How to Conduct Them 1 s.h.**

The course will cover the work of famous pollsters such as Gallup, Harris, Roper and Yankelovich. Featured will be the steps necessary to conduct a valid poll such as non-probability and probability sampling, the importance of representative sampling, questionnaire development, how to write proper questions, tabulation of the results of a poll, and the interpretation of data.

**0699.546 Mass Media and Public Opinion 3 s.h.**

This course consists of three one-credit modules: 0699.521-How Media Affect Us, 0699.522-How



Opinions and Attitudes are Formed and Changed, and 0699.523-How Polls and Surveys Work: How to Conduct Them. In the three modules the nature and functions of newspapers, radio and TV are studied as communication media. The nature of the various publics and factors affecting the expression and information of these publics is studied, as are the ways of sampling and assessing public opinion. Description of individual modules is given under each respective number.

## 0701 Computer Science, General

### 0701.560 Computing Environments in Education 3 s.h.

*(Prerequisite: 0833.525 or 0701.100)*

An introduction to Internet resources, advanced word processing, desktop publishing and presentations (slide shows, presentation software) for the K-12 teacher. Students will prepare projects for classroom use.

### 0701.561 Advanced Computer Environments 3 s.h.

*(Prerequisite: 0701.100, 0702.334)*

This is an advanced applications course in which the student will learn the effective use of various computer applications for organizing and managing their professional duties, including functioning in computer-supported collaborative work groups. Some specific skills that will be covered include the use of desktop publishing to prepare business plans, advertising copy, etc., the creation and maintenance of World Wide Web pages, the use of presentation packages, the integration of graphics into traditional or multimedia documents, and the use of Internet and commercial data bases (including analysis of data using spreadsheet tools). Students will report on emerging trends in hardware and software and will review issues relating to data security and ethics.

## 0702 MIS Information Processing for Managers

### 0702.500 Issues in Management Information Systems 3 s.h.

*(Prerequisite: Completion of, or concurrent with, 0501.518 )*

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.

### 0702.515 Electronic Commerce 3 s.h.

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.

### 0702.560 Design and Implementation of Operating Systems 3 s.h.

*(Prerequisite: 0706.380, 0704.542)*

The course concentrates on the design and functions of operating systems both in multi-user environments and in microcomputers. Topics include asynchronous concurrent processes and deadlock, real and virtual storage, paging and segmentation, scheduling, multiprocessing and parallelism, auxiliary storage management and performance. In addition to general considerations of issues relevant to all operating systems, the course will focus on one or more specific operating systems, such as UNIX, VAX/VMS, and/or DOS.

## 0704 Computer Programming

### 0704.510 Software Engineering 3 s.h.

This course provides an introduction to the discipline of software engineering. In it, students will explore the major phases of the software life cycle, 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 on mini-projects. Proficiency in programming is expected of the students entering this course.

### 0704.530 Advanced Database Systems: Theory and Programming 3 s.h.

*(Prerequisite: 0704.340, 0707.321 or permission of the instructor)*

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).

**0704.548 Programming Languages: Theory, Implementation and Application** **3 s.h.**

*(Prerequisite: 0704.542)*

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.

**0704.564 Compiler Design Theory** **3 s.h.**

*(Prerequisite: 0704.542, 0704.548)*

The 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, the code generator.

**0704.565 System Programming** **3 s.h.**

*(Prerequisite: 0702.560 or permission of the instructor)*

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.

**0704.570 Advanced Object Oriented Design** **3 s.h.**

*(Prerequisite: 0707.540)*

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.

## 0706 Hardware and Computer Organization

**0706.505 Wireless Networks and Systems** **3 s.h.**

*(Prerequisite: 0706.410 or 0706.510 or permission of the instructor)*

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.

**0706.510 Computer Networks** **3 s.h.**

*(Prerequisite: 0707.340, 1702.360 or permission of the instructor)*

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.

**0706.515 Embedded Systems Programming** **3 s.h.**

*(Prerequisite: 0704.390)*

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.

**0706.520 Topics in Computer Architecture 3 s.h.**

*(Prerequisite: 0706.370 or permission of the instructor)*

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.

**0707 Theory Methodology and Applications****0707.510 Mathematical Foundations of Computer Science 3 s.h.**

*(Prerequisite: Permission of the instructor)*

This course provides a graduate-level introduction to the theoretical foundations of computer science, including finite automata, context-free grammars, Turing machines, and formal logic.

**0707.522 Advanced Theory of Computing 3 s.h.**

*(Prerequisite: 0707.210, 1701.131, or permission of instructor.)*

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.

**0707.530 Computer Science Thesis I 3 s.h.**

*(Prerequisite: Permission of the instructor)*

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.

**0707.531 Computer Science Thesis II 3 s.h.**

*(Prerequisite: 0707.530)*

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.

**0707.540 Advanced Design and Analysis of Algorithms 4 s.h.**

*(Prerequisite: 0704.222, and either 0707.210 or 0707.510; or permission of the instructor)*

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.

**0707.545 Advanced Robotics 3 s.h.**

*(Prerequisite: 0707.540 or permission of the instructor)*

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.

**0707.550 Concepts in Artificial Intelligence 3 s.h.**

*(Prerequisite: 0704.222, 0707.210, 1703.150; or permission of the instructor)*

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.

**0707.555 Natural Language Processing 3 s.h.**

*(Prerequisite: 0707.450 or permission of the instructor)*

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.

**0707.556 Machine Learning 3 s.h.**

*(Prerequisite: 0707.450)*

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.

**0707.560 Advanced Computer Graphics 3 s.h.**  
*(Prerequisite: 1701.210, 1704.315 or permission of the instructor)*

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; and animation. Programming projects on writing graphics applications and implementing graphics algorithms will be assigned.

**0707.565 Computer Vision 3 s.h.**  
*(Prerequisite: 1701.210, 1702.360, 0704.103; or permission of the instructor)*

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.

**0707.595 Advanced Topics in Computer Science 3 s.h.**  
*(Prerequisite: Permission of the instructor)*

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.

## **0801 Education, General**

**0801.601 Clinical Internship I 5 s.h.**

**0801.603 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.

**0801.605 Clinical Internship II 7 s.h.**

**0801.607 Clinical Seminar II 1 s.h.**

*(Prerequisite: 0800.601, 0800.603)*

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.

## **0802 Elementary Education**

**0802.511 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.

**0802.517 Clinical Experiences in Elementary School Mathematics 3 s.h.**

*(Prerequisite: 0802.556 or may be taken concurrently)*

The graduate student will use current assessment instruments and plan strategies for diagnosing and improving the mathematics skills and concepts of an elementary school child who is deficient in mathematics and has enrolled in the clinic. This course consists of both formal classwork and working with a child enrolled in the clinic. This course may not be offered annually; usually offered in the summer.

**0802.532 Contemporary Elementary Education/Special Topics 3-6 s.h.**

Considers the principles and practices of special topics in elementary education. This course provides in-depth development of special topics in elementary education.

**0802.536 Elementary School Curriculum 3 s.h.**

The major focus of this course is to have early childhood and elementary grade teachers examine the school curriculum in the role of curriculum designers as they review and reevaluate the current curriculum in their schools, using criteria from research available in the current knowledge base of the profession. Most of the presentations of

material in class will be accomplished through committee structures based upon the learning community model.

**0802.537 Contemporary Curriculum Processes/Social Studies 3 s.h.**

This course is designed to acquaint the student with current global, national and local school-based programs in social studies with emphasis on those of a multi-cultural, multi-ethnic nature. Criteria will be developed for the selection and use of curricula materials and equipment in the field, and the latest evaluation techniques will be considered. Course may not be offered annually.

**0802.538 Contemporary Curriculum Processes/Science 3 s.h.**

This laboratory oriented course dealing with inquiry through the use of process skills. Original investigations are carried out, and techniques are developed to prepare the teacher to guide children in the use of these skills. S-APA, SCIS, ESS and subsequent programs are examined and evaluated.

**0802.539 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.

**0802.540 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.

**0802.541 Practices in Elementary Education (Art) 3 s.h.**

Emphasizes analysis of trends, objectives, methods and materials in art education in terms of underlying assumptions about learning and experience. Attention is given to developing practices in art education that are based on sound theory of art and education.

**0802.542 Linguistic Emphasis of Language Arts Teaching 3 s.h.**

This course in the teaching of language arts is designed to provide teachers with a balanced view of experiences children need to learn the structure and use of language. It is also intended to provide a foundation for a linguistic emphasis on language learning.

**0802.550 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.

**0802.551 Diagnostic Teaching and Evaluation of Basic Language Arts Skills 3 s.h.**

This course will explore and examine various diagnostic processes and evaluational techniques as they relate to the Language Arts. Concepts related to diagnostic teaching procedures (based on the study of standardized language tests and formal and informal assessment techniques) for the underachiever, the gifted and the language disabled child will be developed. This course may not be offered annually.

**0802.552 Piaget and Elementary Mathematics Education 3 s.h.**

*(Prerequisite: 0802.540)*

This course introduces the student to the works of Jean Piaget and elementary school mathematics, including children's concepts of time, of fractions and proportions, and the relation of mathematics to genetic epistemology. The course is based on how children learn, and it will enable the graduate student to see mathematics from the standpoint of the child's progress through the various stages of development and to discern a child's stage of development as a basis for determining curriculum. Course may not be offered annually.

**0802.553 Use of Communications Media to Teach Elementary Language Arts Skills 3 s.h.**

This course introduces the student to the basic production processes utilized by various communication media, e.g., television, radio, print, and theater. The student will learn how to work with children to stage production in each of these media as a means of teaching basic language arts skills. The student will also learn how to manage the product of the media as a vehicle to teach children to receive and interpret communications. A fee is required for laboratory materials. This course may not be offered annually.

**0802.554 Measurement and the Metric System in Elementary School Mathematics 3 s.h.**

This course is designed to equip the student with knowledge of measurement theory and the metric system of measurement through the laboratory approach. Teaching methods will be stressed, and a variety of metric lab equipment and materials will be examined and evaluated. This course may not be offered annually.

**0802.556 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.

**0802.558 Principles of the Math-Lab/Learning Center Approach in Elementary School Mathematics 3 s.h.**

This course will familiarize the student with many different manipulative devices used in elementary mathematics programs, suggest appropriate methods for use, provide opportunities to gain experience in their use, aid in developing the ability to relate mathematics symbols and vocabulary to physical modules and drawings. This course may not be offered annually.

**0802.560 Research Seminar in Elementary Mathematics Education 3 s.h.**

This course provides an opportunity for the student to locate, read, analyze, and discuss research in the field of mathematics education and to develop

skills in research design. Procedures used in research involving elementary mathematics will be investigated. Various research procedures will be studied to develop ability to interpret and understand current research in mathematics. Students will design an investigation of a topic in elementary mathematics. This course may not be offered annually.

**0802.565 Research Seminar in Language Arts Education 3 s.h.**

This course provides an opportunity for the student to locate, read, analyze, and discuss research in the field of language arts education. It will also improve skills in research design. Procedures used in research involving elementary language arts will be investigated. Applications of various research procedure will develop ability to interpret and understand current research. Students will design and investigate a topic in elementary language arts. This course may not be offered annually.

**0802.600 Seminar in Elementary Teaching 3 s.h.**

*(Prerequisite: Official admission to graduate study and permission of the advisor)*

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.(0802.600 offered in fall only; 0802.601 offered in spring only.)

**0802.601 Seminar in Elementary Teaching 3 s.h.**

*(Prerequisite: Official admission to graduate study and permission of the advisor)*

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.(0802.600 offered in fall only; 0802.601 offered in spring only.)

**0806 Higher Education**

**0806.603 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.

**0806.605 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.

**0806.606 Selected Topics in Higher Education 3 s.h.**

*(Prerequisite: 0806.605 or 0827.637 or permission of program coordinator )*

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.

**0808 Special Education, General**

**0808.515 Curriculum and Instruction in Special Education 3 s.h.**

Students are required to proceed from the assessment of a learner to the selection of appropriate curricula and effective teaching strategies. The scope of the course will permit an analysis of the current knowledge base for effectively teaching students with mild, moderate, and severe handicaps in the areas of academics, social interactions, and employment.

**0808.530 Introduction to Vocational Education for Individuals with Special Needs 3 s.h.**

This course provides an overview of the history, philosophy, and process of vocational evaluation, for special needs students. Vocational evaluation tools and techniques will be presented. Emphasis is placed on gaining a broad knowledge of the evaluation process and how it can be incorporated into transition planning.

**0808.540 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 techno-

logical 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).

**0808.555 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.

**0810 Education of Students with Cognitive Impairments**

**0810.578 Administration and Supervision of Education for the Handicapped 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.

**0810.580 Teaching the Severely and Profoundly Handicapped 3 s.h.**

This course utilizes a life span approach toward defining those supports and services necessary for the education and habilitation of individuals with low levels of cognitive development. Educational, vocational, family and social issues are examined to understand the diversity of this population as well as their needs.

**0810.581 Teaching Strategies for Managing Behavior of the Handicapped: A Curricular Approach 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.

**0810.582 Language Perspectives for the Severely and Profoundly Retarded Individual 3 s.h.**

This course provides an intensive study of the language needs of students with severe disabilities and includes individual assessment for the identification of initial communication and the development of acceptable language procedures. This course may not be offered annually.

**0810.583 Advanced Workshop in Special Education 1-6 s.h.**

Instruction is provided in current issues and topics related to the field of special education which are compatible with the student's prerequisites and interest. The course can be designed to meet the in-service needs of federal and state agencies, teachers and/or local school systems. Number of credits will be determined by course content each time the course is offered. Students should consult the program advisor for specific course content and credits assigned. This course may not be offered annually.

**0810.585 Educational Assessment in Special Education 3 s.h.**

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.

**0810.600 Seminar in Education of the Handicapped 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.

**0810.601 Seminar in Education of the Handicapped 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.

**0818 Learning Disabilities**

**0818.501 Techniques and Case Work for the School Social Worker 3 s.h.**

Interviewing techniques and other aspects of the social intake are an integral part of this course. In addition, the format for the casework report and interpretive conferences will be developed. The course work will provide for both theoretical and practical aspects of case work unique to school social work.

**0818.502 Supervised Practicum in School Social Work 3 s.h.**

Opportunities will be provided for the student to evaluate his competencies as an effective social worker in a practical setting. That setting will include opportunities to appropriately discharge the duties involved in school social work, conduct a successful school social work program, and engage in all aspects of the work of a Child Study Team member with regard to children, school personnel, and parent involvement.

**0818.503 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.

**0818.504 Assessment of Learning Disabilities 3 s.h.**

*(Prerequisite: 0818.503, 0825.516 or 2006.533 )*  
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. (0818.504 is offered in the fall semester and 0818.505 is offered in the spring semester.)

**0818.505 Correction of Learning Disabilities 3 s.h.**

*(Prerequisite: 0818.504 )*  
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. (0818.504 is offered in the fall semester and 0818.505 is offered in the spring semester.)



**0818.520 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 neuro-physiological basis for learning.

**0818.525 Advanced Diagnostic 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.

**0818.540 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.

**0818.545 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.

**0818.550 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.

**0818.600 Seminar 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 0818.601.

**0818.601 Seminar in Learning Disabilities 3 s.h.**

This course considers current issues, trends, problems, and research of significance to learning dis-

abilities. 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 0818.601.

**0818.650 Clinical Experiences in Learning Disabilities 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.

**0818.655 Colloquium in Learning Disabilities 3 s.h.**

*(Prerequisite: Completion of all other course requirements for certification and approval of program advisor.)*

The course includes study and discussion of components of the Learning Consultant role based upon consideration of research and case material related to the externship experience. The externship component is a 360-clock hour supervised experience in a public school setting.

**0821 Foundations**

**0821.502 Foundations of Educational Policy Making 3 s.h.**

An examination is made of the complexity and variety of factors influencing contemporary education in order to have an adequate explanation of school policies and practices and the process of change. Some factors to be considered are political structures, social class influences, the impact of traditional values, mass media, demographic factors, economics and ideology.

**0821.504 Foundations of Cross Cultural Education 3 s.h.**

Students will examine the many ways that cross-cultural education is being dealt with in grades K-12. Students will: 1) acquire information on trends and problems in multi-cultural environment; 2) understand the economic and political forces interacting with the multi-cultural environment; 3) critically investigate and analyze contemporary issues; and 4) assess present conditions in cross-cultural environments, suggesting remedies to problems that have been identified.

**0821.527 Historical and Philosophical Foundations of Education 3 s.h.**

Emphasis is upon twentieth century education in the United States and attention is given to contributions of selected thinkers from Plato to Dewey. The nature and functions of educational theory are also of special concern in this course and students are to analyze educational practices for implied or stated philosophical assumptions.

**0821.530 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.

**0821.540 Computers and Related Technologies in the Secondary Classroom 3 s.h.**

*(Prerequisite: 0833.580)*

This course is designed to assist secondary teachers in the successful integration of computers and related technologies into the secondary classroom curriculum. The student will develop computer and technology skills enabling them to select, interpret, and evaluate computer applications in the math, science, social studies, reading and language arts curriculum. The student will be exposed to a large variety of educational software.

**0822 Educational Psychology**

**0822.507 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.

**0822.510 Theories of Learning 3 s.h.**

The focus of this course is on the major psychological theories of learning and is designed for students preparing for career or presently in educa-

tional settings, as teacher and/or administrators. Both cognitive and behavioral approaches will be discussed. The contribution of learning theory in various theories of instructions will also be discussed.

**0822.512 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.

**0822.530 Consultation and Clinical Services Practicum 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.

**0822.586 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.

**0822.601 Seminar in Educational Psychology 3 s.h.**

*(Prerequisite: Permission of program advisor.)*

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.

**0822.634 Colloquium in School Psychology 3-12 s.h.**

*(Prerequisite: Completion of all other course requirements for certificate and approval of program advisor)*

The colloquium is a full school year externship in School Psychology with placement in a public school. Monthly meetings will focus on discussion of psychological diagnosis, educational remedia-

tions and research based upon consideration of case materials related to externship experiences; review of current theoretical and experimental developments in school psychology.

## 0823 Early Childhood Education

### 0823.510 Curriculum Development in Early Childhood Programs 4 s.h.

*(Prerequisite: 0802.532 )*

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.

### 0823.525 Play and the Learning Environment 3 s.h.

*(Prerequisite: 0818.550, 0802.532, 0823.510)*

This course provides in-depth study of current research to build increased understanding of the nature and the development of play and the interface of the play phenomena and learning in young children. Play and the curriculum, the role of adults and culture in enriching children's play, and planning the learning environment with strategies that accommodate individual needs are important course topics. Observing and assessing play are also included.

## 0824 Educational Statistics and Research

### 0824.501 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.

### 0824.502 Initiation of Internship Project 1 s.h. see 0824.608

### 0824.503 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.

### 0824.561 Statistics in Educational Research 3 s.h.

This is an introduction to the use of statistics in educational research. Topics will include: measures of central tendency and variability; probability; binomial, normal, chi square and F distributions; point and interval estimation; hypothesis testing; power functions; zero order correlation and regression; and introduction to analysis of variance.

### 0824.565 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.

### 0824.602 Development of Internship Project 1 s.h.

See 0824.608

### 0824.608 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.

### 0824.703 Research for Educational Leadership I 2 s.h.

*(Prerequisite: Matriculation into the Doctoral program)*

This course focuses on two broad areas: issues of validity and reliability in methodological inquiry and approaches in educational evaluation and assessment. This course provides practical knowledge for use by educational leaders to support administrative decisions.

**0824.705 Research for Educational Leadership II 2 s.h.**

*(Prerequisite: 0824.703)*

This course emphasizes qualitative research with emphasis on policy research, analysis, and assessment. This course provides practical knowledge for use by educational leaders to support administrative decisions.

**0824.706 Research for Educational Leadership III 1 s.h.**

*(Prerequisite: 0824.705)*

**0824.707 Applied Analysis for Educational Leadership 3 s.h.**

*(Prerequisite: 0824.705)*

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.

**0824.708 Research for Educational Leadership IV 1 s.h.**

*(Prerequisite: 0824.706)*

**0824.709 Issues in Survey Research 3 s.h.**

*(Prerequisite: 0824.705)*

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.

**0824.710 Research for Educational Leadership V 1 s.h.**

*(Prerequisite: 0824.708)*

**0824.790 Dissertation Proposal 1 s.h.**

*(Prerequisite: 0828.724)*

This course assists the student in preparing an acceptable dissertation proposal. Topics include alternative approaches to conducting dissertation research, designing an effective study, and recognizing and avoid common difficulties encountered in dissertation research.

**0824.795 Dissertation in Educational Leadership 1-12 s.h.**

*(Prerequisite: Permission of the student's Doctoral Committee as a consequence of passage*

*of the Doctoral Program's second benchmark)*

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.

**0825 Educational Testing, Evaluation and Measurements**

**0825.516 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.

**0826 Student Personnel Services**

**0826.509 Group Counseling in Student Personnel Services 4 s.h.**

*(Prerequisite: 0826.526)*

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.

**0826.520 Design and Administration of Developmental Counseling Programs 3 s.h.**

This course provides a thorough exploration of developmental counseling programs, and of how such programs are integral to school educational programs collectively. Topics include: design and administration, consultation skills, comprehensive program components, developmental curriculum, program evaluation, and counselor orientation.

**0826.526 Individual Counseling Procedures 4 s.h.**

Coverage of all major counseling theories is provided with an emphasis on developing one's per-

sonal 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.

**0826.527 Practicum in Counseling and Student Personnel Services 4 s.h.**

*(Prerequisite: 0826.526)*

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 techniques. A field-based experience of 100 clock hours is required.

**0826.582 Career Counseling and Development 4 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.

**0826.597 Relations of the Public School with the Institutions and Agencies of New Jersey 3 s.h.**

Particular attention is directed to the problem of caring for atypical children, the work of prevention of delinquency and maladjustment and the methods which may be used by administrators, supervisors, and teachers to avail themselves of greater assistance with problems surrounding the teaching of atypical students.

**0826.601 Internship I in Counseling and Student Personnel Services 4 s.h.**

*(Prerequisite: 0826.509, 0826.520, 0826.526, 0826.582)*

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 the semester at their selected Internship Site. 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.

**0826.602 Internship II in Counseling and Student Personnel Services 4 s.h.**

*(Prerequisite: 0826.601)*

Internship II in Counseling and Student Personnel Services is a culminating experience for matriculated students during the final Spring Semester of one's program. Internship II students are expected to acquire a total of 300 clock hours throughout the semester at their internship site. Emphasis is placed upon active participation 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.

**0826.603 Research I in Counseling and Student Personnel Services 4 s.h.**

*(Prerequisite: Matriculated Student; concurrent registration in 0826.601; completion of core courses)*

Research I in Counseling/Student Personnel Services will provide opportunities for students to conduct focused inquiry and to generate knowledge around those factors germane to the field of counseling. During Research I 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.

**0826.604 Research II in Counseling and Student Personnel Services 3 s.h.**

*(Prerequisite: 0826.601, 0826.603; concurrent registration in 0826.602)*

Research II in Counseling/Student Personnel Services is the second phase of students' action-research thesis project. During Research II the focus will be in areas such as collecting and analyzing data, program evaluation, developing rationale for proposed program changes, and preparing the final thesis and publication of research information.

**0827 Educational Administration**

**0827.505 Selected Topics in Educational Leadership 3 s.h.**

*(Prerequisite: 0828.546 or permission of instructor)*

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.

**0827.521 The Principalship s.h.**

*(Prerequisite: 0828.546, 0827.559, 0829.580)*

Students learn and demonstrate the ability to apply behavior management strategies, create an effective school climate, manage the school plant, comply with state, federal and contractual requirements, obtain and monitor personnel, manage change and coordinate community and service agencies. Effective communication skills are emphasized.

**0827.534 School Plant Planning and Management 3 s.h.**

*(Prerequisite: 0828.546)*

School building problems, public relations, finance, school enrollment forecasts, planning and supervising building construction and the choice of equipment and materials are dealt with. This course is a practical course; visits will be made to newly constructed facilities and written critiques will be completed.

**0827.535 School Finance and Records 3 s.h.**

*(Prerequisite: 0828.546)*

Students learn and demonstrate the ability to develop budgets, apply principles of financial management, budget management. Students study how schools are supported financially.

**0827.536 Financial Accounting for School Systems 3 s.h.**

*(Prerequisite: 0828.546, 0827.535)*

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.

**0827.538 School Business Management 3 s.h.**

*(Prerequisite: 0828.546)*

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.

**0827.559 School Law for Administration and Supervision 3 s.h.**

*(Prerequisite: 0828.546)*

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.

**0827.569 The Law, the Courts, and the Public School 3 s.h.**

*(Prerequisite: 0827.559, 0828.546)*

This course is designed to provide in-depth basic knowledge of the law directly affecting education in the United States. It is all-inclusive in content, analyzing and synthesizing judicial interpretations of the federal and state constitutions, statutes, rules and regulations and the common law in an objective manner.

**0827.572 School Law and Public Policy 3 s.h.**

*(Prerequisite: 0828.546)*

Students will examine the development of school law and public policy in the United States, especially as law and public policy legally "touch" formal schooling. Students will review the many ways laws and policies affect the school community: students, teachers, administrators, and parents. The comprehensive nature of this course will increase the students' awareness of the theories, assumptions, ideas, events, laws and policies that influence formal education, how these influences occur, and how they will impact on future school law and public policy.

**0827.580 Research Proposal Development for the Practicum and Seminar in School Administration/ Supervision I and II 2 s.h.**

*(Prerequisite: Completion of all required course work and electives. Intent to participate in the internship during the academic year immediately following the completion of this course.)*

This course focuses on the design and development of a research proposal for use in the Practicum/ Seminar in Administration/Supervision I and II. Students will engage in constructing a formal research proposal for their required internship. The research proposal will include strategies for solutions to five separate field projects. Satisfactory completion of this course will require formal acceptance of the intern's research proposal by the intern's university mentor and the administration of the intern's field site.

**0827.599 Research Proposal Development 2 s.h.**

The purpose of this course is to provide school administration masters degree candidates with the knowledge and skills necessary to be responsible participants in an internship program that

seeks to serve educational institutions, while building character to meet the challenges of the workplace. In addition, it seeks to provide these candidates with an opportunity to begin forming a learning partnership among themselves, the university faculty, and practicing administrators in both public and private school settings.

**0827.600 Practicum/Seminar in Administration/Supervision I 3 s.h.**

*(Prerequisite: 0827.580)*

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.

**0827.601 Practicum/Seminar in Administration/Supervision II 3 s.h.**

*(Prerequisite: 0827.580)*

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.

**0827.610 Employer-Employee Relations 3 s.h.**

*(Prerequisite: 0828.546)*

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.

**0827.620 Legal Issues in Higher Education 3 s.h.**

*(Prerequisite: 0806.605 or 0827.637 or permission of program coordinator )*

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.

**0827.621 Student Services in Higher Education 3 s.h.**

*(Prerequisite: 0827.637 or permission of program coordinator )*

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.

**0827.622 Planning and Resource Allocation in Higher Education 3 s.h.**

*(Prerequisite: 0827.637 or permission of program coordinator )*

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.

**0827.625 Change in Higher Education 3 s.h.**

*(Prerequisite: Completion of minimum of 18 s.h. in required program courses)*

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.

**0827.626 Practicum in Higher Education Administration 3 s.h.**

*(Prerequisite: Completion of minimum of 27 s.h. in required program courses)*

Students will utilize their workplace as the laboratory to apply theory and to consider issues of organizational culture and professional practice.

**0827.627 Higher Education Administration  
Capstone Seminar 3 s.h.**

*(Prerequisite: 0827.625)*

The seminar will provide the opportunity for integration, synthesis, and reflection. Students will complete the master's thesis and will prepare an educational leadership platform.

**0827.628 Seminar/Internship in Higher  
Education Administration I 3 s.h.**

*(Prerequisite: Permission of instructor)*

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.

**0827.629 Seminar/Internship in Higher  
Education Administration II 3 s.h.**

*(Prerequisite: Seminar/Internship in Higher Education Administration I)*

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.

**0827.632 Computer Technology in Educational  
Administration 3 s.h.**

Students will identify and utilize current technology to assist with administration and program delivery in education. The application of computer technology to registration and scheduling, grade reporting, instructional utilization, accounting and testing and evaluation will be some of the topics studied.

**0827.637 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.

**0827.701 Organizations as Cultures I:  
Theory 3 s.h.**

*(Prerequisite: Matriculation into the Doctoral Program)*

This course, part of a two-course sequence, develops the necessary leadership skills to identify, understand, and analyze the overt cultural artifacts and espoused values, as well as the covert underlying basic assumptions which are embodied in an educational organization's culture.

**0827.702 Organizations as Cultures II:  
Application 3 s.h.**

*(Prerequisite: 0827.701)*

This course helps students understand the application of leadership skills necessary to mobilize resources in the development of educational institutions as perpetual learning enterprises. Students will study, identify, and analyze how organizational cultures operate in the real world. They will learn how educational leaders interface with the internal and external environment of their organizations, as well as how they develop their institutions into learning organizations.

**0827.704 Changing Organizations 3 s.h.**

*(Prerequisite: 0827.701, 0827.702)*

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.

**0827.706 Negotiating 3 s.h.**

*(Prerequisite: 0827.701, 0827.702)*

This course focuses on the leadership role of creating mutual understanding and agreement among people and groups who may have fundamental differences of opinion. Students will learn the dynamics of the formal and informal negotiation processes, as well as what constitutes a good agreement.

**0827.707 Planning 4 s.h.**

*(Prerequisite: 0827.702)*

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, budgets, etc., that will accomplish the goals and objectives. Students will also focus on the planning of new programs and policies as strategic implementation approaches. A simulated strategic planning



process utilizing information from a hypothetical school system or college will be undertaken.

**0827.708 Organizational Communications 3 s.h.**

*(Prerequisite: 0827.701, 0827.702)*

In this course, students analyze the dynamic interaction processes that affect how people think and behave in educational organizations. Students study the nature of effective organizational communication and strategies to remove the communication barriers that constrain the achievement of individual and organizational goals.

**0827.709 Leadership Challenges 3 s.h.**

*(Prerequisite: Matriculation into the Doctoral Program in Educational Leadership)*

Students will examine the major issues that require leadership in the educational setting. Focus will be on the innovative approaches being undertaken across the nation to meet these challenges.

**0827.710 Theories of Organizational Change 3 s.h.**

*(Prerequisite: Matriculation into the Doctoral Program in Educational Leadership)*

This course focuses on theories that contribute to leading change, including individual change, small group change, systemic change, and overcoming barriers to change. Specific topics include historical perspectives of educational change, theories of organizational assessment, theories of intervention, theories for design processes, and theories about the use of self in leading change.

**0827.713 Forces of Change in American Society 3 s.h.**

*(Prerequisite: 0828.715)*

This course teaches educational leaders to examine the complex demographic, social, political, and economic forces at work in society as they effect education and to explore alternative responses to issues that arise.

**0827.733 The Policy Environment 3 s.h.**

*(Prerequisite: 0824.705, 0827.713)*

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.

**0827.735 Promoting Effective Learning 3 s.h.**

*(Prerequisite: 0824.703, 0827.713)*

This course focuses on the best ways to facilitate learning for the diverse range of students, e.g., typical, atypical, at risk, disadvantaged, gifted and talented, young, and old. It examines issues such as how the educational environment can be organized to maximize learning, whether the manner in which students are grouped contributes to improved learning, how an individual's learning and behavior styles may be taken into account when planning instruction, the effectiveness of peer learning and mentoring, etc. The course also provides insight on the use of instructional technology to improve learning outcomes.

**0827.737 The College Student: Issues and Support Programs 3 s.h.**

*(Prerequisite: 0827.713)*

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.

**0827.739 Current Issues in Education 3 s.h.**

*(Prerequisite: 0827.713)*

This course will have a changing focus that will permit faculty to offer specialized seminars on various themes: new developments in the field, issues of significance where advanced specialization would be helpful to educational leaders, areas of faculty research and scholarship, or areas of student request. 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.

**0827.741 Current Issues in Higher Education 3 s.h.**

*(Prerequisite: 0827.713)*

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.

**0827.742 The Curriculum of Higher Education 3 s.h.**  
(Prerequisite: 0827.713)

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.

**0827.744 Future Studies 2 s.h.**  
(Prerequisite: 0827.733)

This is an introduction to the field of future studies, including its concepts and methodologies. Students will study trends and forecasts in areas that are reshaping America and the world, including population, science and technology, information and communications, the physical environment, geo-political factors, and socio-economic trends. The effect on the individual, families, communities, and institutions will be studied with an emphasis on the implications for education. Students will utilize futures methodologies in a research project on futures in education.

**0827.746 Higher Education Governance 3 s.h.**  
(Prerequisite: 0827.733)

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.

**0827.748 Human Resource Development 3 s.h.**  
(Prerequisite: 0827.704)

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.

**0827.749 Issues in School Governance 3 s.h.**  
(Prerequisite: 0827.733)

This course identifies current issues in school governance and provides students with the understanding of how the issue develops, those instru-

mental in promoting the issue, and the ramifications of the 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.

## 0828 Leadership Studies

**0828.501 Administration and Supervision of Music Education 3 s.h.**

This course is a study of current practices and techniques of supervision with emphasis placed on the problems relating to specific administrative positions and to most music programs. This course may not be offered annually.

**0828.503 Leading the Learner Centered School 3 s.h.**

This course is designed to explore the best ways to facilitate learning for students and to examine how the educational environment can be organized to maximize learning for all.

**0828.522 Educational Supervision 3 s.h.**  
(Prerequisite: 0828.546, 0829.580)

This course focuses on skills and knowledge essential for the supervision of educational programs. Topics include: program planning, staff selection and mentoring, curriculum development, organizing and managing time, analyzing teaching, collaborative program development, practicing value-added leadership and effective communications.

**0828.546 Educational Organization and Leadership 3 s.h.**

Students understand and demonstrate the ability to exert effective leadership behavior such as school-based management, articulate a school vision, manage change, support staff development and use effective supervisory skills. Other topics include organizational theory, historical and conceptual development of supervision, effective schools, effective teaching, and the future of school supervision.

**0828.598 Observational Skills for Supervisors 3 s.h.**

(Prerequisite: 0828.546)  
Emphasis is on the observation and evaluation of teaching performance using research/measurement based assessment instruments and tech-

niques. Research on teaching and effective schools forms the theoretical basis for performance appraisal.

**0828.602 Field Service in Supervision: Variable Topics 3 s.h.**

*(Prerequisite: 0828.546)*

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.

**0828.706 Diversity and Educational Leadership 3 s.h.**

*(Prerequisite: 0827.713)*

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.

**0828.710 Leadership Seminar I 1-2 s.h.**

*(Prerequisite: Matriculation into the Doctoral Program)*

The Leadership Seminar series spans each stage of the doctoral program, serving throughout the seven semesters as a focusing technique to forge the cohort into a defined community of learners and scholars. While its primary function is to serve as a vehicle for self-reflection, group reflection, and the integration of course work with professional concerns, the Leadership Seminar also provides the opportunity for the cohort to tailor the program to meet specific professional concerns and developmental needs as they emerge.

**0828.711 Leadership Seminar II 2 s.h.**

*(Prerequisite: 0828.710)*

See Leadership Seminar I

**0828.712 Leadership Seminar III 2 s.h.**

*(Prerequisite: 0828.711)*

See Leadership Seminar I

**0828.713 Leadership Seminar IV 3 s.h.**

*(Prerequisite: 0828.712)*

See Leadership Seminar I

**0828.714 Leadership Seminar V 2 s.h.**

*(Prerequisite: 0828.713)*

See Leadership Seminar I

**0828.715 Leadership Theory 3 s.h.**

*(Prerequisite: Matriculation into the Doctoral Program)*

The 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.

**0828.716 Leadership Seminar VI 2 s.h.**

*(Prerequisite: 0828.714)*

See Leadership Seminar I

**0828.718 Seminar on the Psychology of Leadership 4 s.h.**

*(Prerequisite: 0828.715)*

This course develops student's understanding of the psychological needs of persons who seek leadership roles, human nature in the work place, the psychological factors that underpin decision-making and acceptance of change, and utilizing psychology to create a more supportive, empowering, and effective work place.

**0828.721 Special Topics in Leadership 4 s.h.**

*(Prerequisite: 0828.711)*

This course will have a changing focus that will permit faculty to offer specialized seminars focused on new developments in the field, issues of significance where advanced specialization would be helpful to educational leaders, 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.

**0828.724 Leadership Problems I: Field Studies 4 s.h.**

*(Prerequisite: 0827.704)*

The first of a two-course sequence, this course will structure students into leadership teams that will be assigned to work with specific schools and colleges to assist in the development of a plan for the solution of a significant organizational problem or program development need.

**0828.725 Leadership Problems II:  
Field Applications 4 s.h.**

*(Prerequisite: 0828.724)*

The second in a two-course sequence, this course will employ the leadership teams, previously established in Leadership Problems I, to develop a final action plan for the solution of a significant organizational problem or program development need, and to participate in the implementation of the change.

**0828.726 Leadership Problems 7 s.h.**

*(Prerequisite: Matriculation into the Doctoral Program in Educational Leadership)*

This is a field-based course that involves students in a major collaborative effort to address a complex problem or opportunity in an educational setting. Students engage in analytical and design activity, as well as develop a comprehensive implementation plan. Focus is on both the substance of the problem/opportunity and the process of change.

**0828.728 Leadership and Educational  
Philosophy 3 s.h.**

*(Prerequisite: 0828.710)*

This course focuses on the democratic ideals that underpin educational philosophy in America, formal schools of educational philosophical thought, problems in educational philosophy, and the implications of educational philosophy for educational leadership.

**0829 Curriculum and Instruction**

**0829.503 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.

**0829.515 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.

**0829.527 Humanistic Education 3-6 s.h.**

This course considers in detail a rationale for establishing a K-12 program of humanistic education, and a review of those programs which are receiving national attention. It also includes an analysis of methods for integrating humanistic education into the traditional subject matter curriculum. Various strategies for humanizing the school's environment are also included. This course may not be offered annually.

**0829.528 Curriculum and Methods in  
Subject Field 3 s.h.**

This course provides students with the opportunity to apply the latest principles and practices of secondary education to their major subject field. The newer techniques and materials are considered in light of their contribution to purposeful learning. This course may not be offered annually.

**0829.529 Analysis of Current Research  
in Science Education 2 s.h.**

Concerned with the role of the science teacher in the classroom, laboratory and other school situations. Considers the changes which have been made and which are still occurring in the field of science education. This course may not be offered annually.

**0829.540 Strategies of Planned  
Curriculum Change 3 s.h.**

*(Prerequisite: 0829.580, one other graduate curriculum course )*

This graduate seminar course is designed to enable a student to identify, explore, and apply selected strategies of planned curriculum change. Barriers to, and constraints limiting, curriculum change at the national, state, and local level will be examined. Students will be expected to exhibit a knowledge base in curriculum theory and development. Within the scope of the course, students will be expected to select and research a curriculum change problem. Teams from school districts are encouraged to enroll. This course may not be offered annually.

**0829.545 Discipline-A Positive  
Approach 3 s.h.**

The course is designed to probe the causes of student behavior and misbehavior and explore ideas for establishing good classroom atmosphere which is needed to overcome classroom problems. A variety of motivational and teaching techniques that stimulate a positive approach to discipline will be explored. This course may not be offered annually.

**0829.547 Curriculum Theory 3 s.h.**

*(Prerequisite: 0829.550, 0829.580)*

An introductory examination of the problems involved in the generation of curriculum theory. Emphasis is placed on the analysis of the constraints within which theoretical frameworks are developed and their implications for curriculum designs K-12. Selected contemporary curriculum theorists will be introduced and their views examined. Prerequisites for this course are Fundamentals of Curriculum Development and Public School Curriculum K-12.

**0829.550 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.

**0829.562 Motivational Techniques Workshop 3 s.h.**

Current stimulating strategies for establishing and maintaining high student interest levels will be explored and generated by instructor and group participants. Workshop members will be expected to develop and share a variety of motivational techniques. This workshop is designed to demonstrate to teachers that instruction need not be confined to a single method, single subject, or the single room. Motivation is an essential element of any successful learning climate. This course may not be offered annually.

**0829.563 Junior High/Middle School Curriculum 3 s.h.**

The course will be directed in a practical sense to an analytical study of the junior high/middle school concept. Attention will be directed to curriculum development, implementation, and evaluation in relations to the nature of the learner. Teams from schools are encouraged to enroll. This course may not be offered annually.

**0829.580 Fundamentals of Curriculum Development 1 3 s.h.**

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 curricu-

lum design, criteria of staff, lay advisors, committees, and consultants for the purpose of curriculum planning. This is a basic course which is a prerequisite for any further study in curriculum.

**0829.590 Curriculum Evaluation 3 s.h.**

*(Prerequisite: 0829.580, one other graduate curriculum course )*

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.

**0829.600 Specialization Seminar and Investigation I 3 s.h.**

*(Prerequisite: Official admission to graduate study, permission of program advisor )*

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.

**0829.601 Specialization Seminar and Investigation II 3 s.h.**

*(Prerequisite: Official admission to graduate study, permission of program advisor )*

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.

**0830 Reading Education**

**0830.510 Teaching Reading in Elementary Schools 3 s.h.**

Students acquire a background in current theory and instructional practices related to emerging literacy, word identification, comprehension, study skills, and recreational reading. The relationship between reading and the other language arts is stressed. Additionally, students become familiar with methods, materials and technology for teaching reading, measuring reading achievement, and managing a reading program in the elementary classroom. This course is required for those seek-

ing the M.A. in reading education and/or reading certification. Teachers and administrators who wish to increase their knowledge in elementary reading curriculum and instruction may also enroll. No prerequisite course is required.

**0830.520 Teaching Reading in Content Areas 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.

**0830.530 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.

**0830.535 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.

**0830.540 Administration and Supervision of School Reading Programs 3 s.h.**

*(Prerequisite: 0830.510 or 0830.520 )*  
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.

**0830.550 Diagnosis of Remedial Reading Problems 3 s.h.**

*(Prerequisite: 0830.510, 0830.520, matriculation in Reading Education Program )*  
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.

**0830.552 Workshop 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.

**0830.560 Treatment of Remedial Reading Problems 3 s.h.**

*(Prerequisite: 0830.550)*  
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.

**0830.570 Clinical Experiences in Reading 4 s.h.**

*(Prerequisite: 0830.560)*  
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 appro-

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.

**0830.600 Seminar and Research in Reading 3 s.h.**

*(Prerequisite: 0830.540, 0830.570)*

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.

**0832 Music Education**

**0832.501 General Music in the Elementary and Secondary Schools 3 s.h.**

The philosophy, scope and sequence of the general music program for all children is related to the total school curriculum. Permission to take this course must be secured from the music department. This course is offered bi-annually.

**0832.502 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.

**0832.506 Guitar Pedagogy 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Guitar or permission of instructor)*

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.

**0832.510 Music for Special Needs 3 s.h.**

The course is a required offering in the music education specialization. It provides opportunities for the music specialist and for those students with

substantial musical background to learn to deal with problems of those segments of our population which we deem exceptional: geriatrics, the handicapped, the gifted, etc. The course is open to music students and other students upon approval by the instructor. This course may not be offered annually.

**0832 Music Education - Sec Ed**

**0832.505 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.

**0832.507 Piano Pedagogy 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music program or permission of instructor)*

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.

**0833 Mathematics Education**

**0833.510 Computers and the Curriculum 3 s.h.**

*(Prerequisite: 0833.560)*

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.

**0833.521 Instructional Computer Languages: LOGO 3 s.h.**

This course is designed to help students become literate in a structured programming language. Special emphasis is placed on teaching techniques and curriculum design relating to public school education.

**0833.525 Instructional Applications of Word Processing and Data Management 3 s.h.**

Word processing, data base management and spreadsheet operations are combined into an integrated system suitable for educational applications, including text preparation, filing, and grading systems. Hands on experience with the inte-

grated systems, along with other complementary software, including desktop publishing and key-boarding, is provided. Evaluation of programs for classroom use, as well as personal use, is included.

**0833.530 Computer-Assisted Instruction 3 s.h.**  
(Prerequisite: 0833.560 or equivalent experience )

This course provides a foundation for the effective design, selection, and evaluation of educational software. Instructional interaction between the computer and the student is explored and the teacher's role in CAI is defined. A variety of software packages for the classroom are evaluated.

**0833.548 Seminar in Educational Computing 3 s.h.**

(Prerequisite: Completion of all other course requirements for the Post Baccalaureate Certification in Computers in Education or permission of the program advisor )

The major concepts studied in the Computers in Education Post-Baccalaureate Certificate Program are summarized, integrated, applied, and evaluated in this course. An in-depth research project is developed and executed. Projects are selected from the areas of curriculum development and evaluation, computer assisted instruction, or administrative applications.

**0833.560 Instructional Applications of Computers 3 s.h.**

As an entry level course in computer usage for teachers, this course deals with the use of computer hardware and software in classroom settings. Commercial and public domain courseware packages are examined in terms of their quality and their potential for enhancing the curriculum. The programming language BASIC and LOGO are examined with relevance to classroom applications.

**0833.572 Special Topics 1-3 s.h.**  
(Prerequisite: Permission of program advisor)

This course will address specific contemporary issues in educational computing. The topics will change as needs arise and will be published in the course selection catalog. Variable credit.

**0833.574 Multimedia & Hypermedia for Teachers 3 s.h.**

(Prerequisite: 0833.530 or permission of program advisor )

As an advanced level course for classroom teachers engaged in the utilization of the computer in the classroom, this course will explore ways to create multimedia and hypermedia materials for

use in the classroom. Instructional planning is emphasized by applying the principles of instructional design and using the techniques of courseware design to facilitate the delivery of information in the context of multimedia and hypermedia environments.

**0833.580 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.

**0833.583 Computers and Related Technologies in the Elementary Classroom 3 s.h.**

(Prerequisite: 0833.580)

This course is designed to assist elementary school teachers in the successful integration of computers and related technologies into the elementary classroom curriculum. The student will develop computer and technology skills enabling them to select, interpret, and evaluate computer elementary and middle school applications in the math, science, social studies, reading and language arts curriculum. The student will be exposed to a large variety of educational software.

**0833.584 Desktop Publishing in the Educational Environment 3 s.h.**

(Prerequisite: 0833.525 or permission to waive )

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.



**0833.585 Internet in the Classroom 3 s.h.***(Prerequisite: 0833.580)*

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 list-serv 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 life-long learning in education.

**0833.586 Planning and Implementing Technology in Public Education 3 s.h.***(Prerequisite: 0833.580)*

This course is intended for present and future leaders of instruction and technology in public schools. This course will help the graduate student become instrumental in improving teaching and learning by examining concepts and techniques in strategic planning, goal setting, curriculum restructuring and alignment, technological assessment, and program and staff development. The course will provide the graduate student with experience in selecting the appropriate hardware and software in an educational setting. Students will also be asked to identify and explore future trends in educational technology.

**0833.587 New Directions in Educational Technology 3 s.h.***(Prerequisite: 0833.574, 0833.580)*

This course is intended for educators who are interested in identifying new technologies and unique applications of these technologies in classrooms. Students will research, identify and publish information about new innovations and applications on a web site specifically designed for this endeavor. This web site will provide a forum for the graduate student. It will also include suggested as well as tried-and-true activity structures, and assessment rubrics. This course will afford the graduate student opportunities to make connection with professionals in related areas of technology design and development.

**0833.588 Research Seminar in Educational Technology I 3 s.h.**

This first seminar will provide a foundation whereby students (1) gain an understanding and appreciation of the field of educational research and (2) develop sufficient knowledge of quantitative and qualitative research methods so that more technical research skills can be developed and applied in the subsequent seminar. In this course the graduate student will decide with his/her advisor on an appropriate topic of study for the research thesis/project required by the program. This thesis/project will be completed in the second seminar. Prerequisites: Completion of at least 24 S.H. of course work in the Masters in Educational Technology program.

**0833.589 Research Seminar in Educational Technology II 3 s.h.***(Prerequisite: 0833.588)*

This second seminar is a continuation of the first offering. It provides additional formal training in design, statistics, qualitative research, and evaluation research. Techniques for recording, organizing and documenting research, along with the in-depth understandings that research brings, will be acquired through the experience of conducting or participating in the ongoing research thesis/project guided by the senior advisor.

**0833.600 Problems in Mathematics Education I 3 s.h.***(Prerequisite: Official admission to graduate program, permission of the program advisor )*

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.

**0833.601 Problems in Mathematics Education II 3 s.h.***(Prerequisite: Official admission to graduate program, permission of the program advisor )*

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.

## 0834 Science Education

### 0834.532 Physical Science Activities for Teachers 3 s.h.

This course is designed to assist the elementary and middle school teacher gain a better understanding of the basic concepts in force, motion, heat, light, sound and electricity. Through intensive experiential use of science materials, the teacher will be provided an opportunity to improve skills in demonstrating and in experimenting in physical science. This course may not be offered annually.

### 0834.600 Seminar in Science and Science Teaching I 3 s.h.

*(Prerequisite: 25 graduate s.h., official admission to program, approval of the program advisor )*  
Consideration given to assumptions and hypotheses upon which practical applications are based. Opportunity provided for advanced students to do special research on a professional problem involving any phase of science or science education.

### 0834.601 Seminar in Science and Science Teaching II 3 s.h.

*(Prerequisite: 25 graduate s.h., official admission to program, approval of the program advisor )*  
Consideration given to assumptions and hypotheses upon which practical applications are based. Opportunity provided for advanced students to do special research on a professional problem involving any phase of science or science education.

## 0835 Exercise Science

### 0835.521 Physiology of Exercise 3 s.h.

This course involves the study of the interrelationship of exercise and physiology. It covers the functions of the human body under the stress of activity. Research in exercise physiology will be related to practices in physical education and athletics.

### 0835.530 Principles of Coaching 3 s.h.

The course is designed for coaches of sport in educational systems. Its purpose is to examine relationships between institutional organizations, sport, student growth and community expectations. Management behaviors and administrative practices connected to both sport and education are studied. Practical application of group dynamics and public media involvement are skills experienced in this course.

### 0835.555 Individual Study in Health and Physical Education 3 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.

### 0835.560 Administration of School Athletics 3 s.h.

Devoted to intramural as well as interscholastic athletic programs. Legal aspects of athletic administration are determined. Budgeting, planning, scheduling, purchasing and caring for equipment, publicity, insurance and other related aspects are studied. Students study the decision-making process in the athletic program as it relates to other institutional programs and policies.

### 0835.570 Planning Construction and Maintenance of Facilities for Health and Physical Education 3 s.h.

Designed to identify the problems in planning, building, and maintaining facilities in Health, Physical Education and Recreation. Blue print reading and block planning will involve practical experiences. Field trips, when possible, to local facilities will be taken. Surface lighting and equipment for facilities will be explored.

### 0835.590 Critical Readings, Issues, and Trends in Health and Physical Education 3 s.h.

Students review and evaluate current professional literature in health and physical education publications. Library research skills are developed while examining critical issues and current trends in health and physical education.

### 0835.591 Foundations and Interpretation of Health and Physical Education 3 s.h.

A course designed to examine influences of educational philosophies upon the place and function of health and physical education in American education.

### 0835.592 Curriculum Construction in Health and Physical Education 3 s.h.

The student moves from an understanding of curriculum foundations and theory to application of

design, organization and evaluation. The process should culminate in the ability to produce effective kindergarten through twelfth grade health and physical education curricula in school or community educational settings.

**0835.595 Research Design in Health and Physical Education 3 s.h.**

Students investigate research procedures and design in health and physical education. Literature review techniques, experimental and non-experimental research design, subject selection and assignment, and ethical issues in conducting research are areas studied.

**0835.598 Quantitative Analysis in Health and Physical Education 3 s.h.**

Students investigate the application of statistical procedures in research processes in health and physical education. Descriptive and inferential statistics are included. The students use microcomputer statistical packages for data reduction and analysis.

**0835.600 Research Seminar I in Health and Physical Education 3 s.h.**

*(Prerequisite: Permission of instructor)*

Students will select a scholarly project or thesis. The course will include the content, organization and procedures of empirical investigative writing.

**0835.601 Research Seminar II in Health and Physical Education 3 s.h.**

*(Prerequisite: Permission of the instructor)*

For the thesis student only. The course will involve the completion of the graduate thesis.

## 0837 Health Education

**0837.510 Selected Topics in Health 3 s.h.**

This course provides students with the opportunity to identify causes, effects, prevention and intervention techniques of current health problems of students in the schools. The graduate student will have the opportunity to investigate a variety of strategies utilized by schools, communities, and the medical world to solve the problem. Curriculum development will also be included. This course may not be offered annually.

**0837.525 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.

**0837.540 Current Advances in Health Sciences 3 s.h.**

Examines the latest developments and studies research finding which pertain to both personal and community health problems and issues. This course may not be offered annually.

## 0840 English as a Second Language and Bilingual Education

**0840.505 Issues and Innovations in Foreign Language Education 3 s.h.**

*(Prerequisite: Permission of the instructor )*

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.

**0840.510 Issues of Language and Cultural Diversity in ESL/Bilingual Programs 3 s.h.**

*(Prerequisite: 0821.530)*

This course focuses on the issues involved in the schooling of students of first languages other than English. Emphasis is placed on awareness of and sensitivity to the diverse values and behaviors of students learning English as a second language, and on classroom strategies to accommodate this diversity in a positive manner. Usually taught in Spring semester.

**0840.512 Linguistics for Teaching Second Languages 3 s.h.**

This course deals with the components and characteristics of language as they impact on the acquisition of both first and second languages. A

study of the language systems of English will provide a basis for the study of second language acquisition, and comparisons and contrasts will be made with English and representative languages.

**0840.513 Extending Foreign Language Instruction K-12 3 s.h.**

*(Prerequisite: Permission of the instructor )*

This course is designed for the certified foreign language teacher, as well as for candidates for conditional certification in foreign (world) language education as approved by the New Jersey State Department of Education. Emphasis is placed on contemporary methods and materials appropriate to age/grade levels in the elementary, middle, and secondary school, in keeping with state and national standards. A variety of activities integrating language and culture will be demonstrated and practiced. Topics include the use of thematic units, alternative assessment techniques, and the application of technology. Participants are encouraged to make practical application to their own teaching situations.

**0840.515 Language, Culture and Communication 3 s.h.**

*(Prerequisite: 0840.512)*

This course examines the ways in which people communicate both verbally and non-verbally in social interaction. The interdependence of language and culture in communication is a major focus. Emphasis is placed on the importance of successful intercultural communication, with practical application to second language teachers.

**0840.517 Modern Developments in ESL/Bilingual Education 3 s.h.**

*(Prerequisite: 0840.510, 0840.515)*

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.

**0840.520 Teaching ESL/Bilingual Education: Process and Practice 3 s.h.**

*(Prerequisite: 0840.517)*

This course concentrates on the development and presentation of language lessons which demonstrate the relationship of theory and practice. Classroom observations and experiences constitute an important part of this course. Micro teaching and peer coaching will be utilized to provide a

basis for reflective teaching. This course is offered in alternate years to 0840.522.

**0840.522 Integrating Language and Content in the ESL/Bilingual Education Classroom 3 s.h.**

*(Prerequisite: 0840.517)*

This course examines current programs and available materials in bilingual education appropriate to a range of content areas and grade levels. Field observations and experiences constitute an important part of the course. Micro teaching and peer coaching will be utilized to provide a basis for reflective teaching. This course is offered in alternate years to 0840.520.

**0896 Environmental Education and Conservation**

**0896.501 Introduction to Environmental Education 3 s.h.**

An introduction to environmental education as related to outdoor education, conservation education, and resource education is presented historically. The goals of environmental education are to: (1) examine environmental problems and alternate solutions; and (2) improve curriculum and instruction at all levels of formal and informal education. Practical, relevant applications of biology, physics, chemistry, earth sciences and the social sciences are emphasized.

**0896.502 Trends in Environmental Education 3 s.h.**

Emphasis in this course is centered on modern research related to environmental education. Modern and timely concerns in environmental education including exemplary local, state and federal environmental education activities and curricula are explored and demonstrated. May not be selected to meet specialization requirements for Teaching Secondary School Science or Environmental Education.

**0896.503 Developing Curriculum Guides and Materials for Environmental Education Programs 3 s.h.**

Techniques and procedures for the development of curriculum guides and materials for the teaching of environmental concerns via environmental education programs are the goals of this course. Emphasis will be placed upon the development of curriculum materials, by each student, that can be utilized in his professional career. The course will

deal with the selection, production and utilization of audiovisual materials related to environmental education. Educational materials available from educational and commercial sources will be surveyed.

**0896.505 Environmental Conservation Workshop 3 s.h.**

An overview of environmental resources including water, air, energy, land, and minerals, and an identification of the problems related to the conservation of those resources is presented. The effect of population quantity, population density, life style and energy use patterns on environmental quality is examined. Local, state, national and world ecosystems are investigated. Field oriented small group projects are emphasized in addition to large group integrating seminars.

**0896.506 Practicum in Marine Environments 2 s.h.**

Marine, wetland, and coastal ecosystems are investigated and evaluated. Field experiences include the monitoring of biological, chemical and physical factors in marine aquatic areas. The environmental impacts of modern man on the ecology of bays, estuaries and coastal regions will be studied. The use of marine studies to improve curriculum will be emphasized.

**0896.507 Practicum in Woodland Environments 2 s.h.**

Forest and grassland ecosystems, their wildlife and food chains are investigated. The benefits and costs of preservation and conservation of these resources are studied. Methods of using the woodland and aquatic environments as sites and topics for improving curriculum are included. Field experiences are emphasized.

**0896.508 Practicum in Urban Environments 2 s.h.**

Field studies of urban, suburban, rural, and natural environments provide contrasts and comparisons of varying environmental quality. The impacts of increasing population densities on air, water, and land are observed and evaluated. The sociological, economic and psychological effects of urbanization are noted. Opportunities to use the urban environment as a medium for curriculum improvement are investigated. This course may not be offered annually.

**0896.509 Environmental Land Use-Resources and Recreation 3 s.h.**

Knowledge of environmental guidelines concerning the identification, planning, and use of land areas for the purposes of industrial, educational, residential and recreational endeavors will be presented in this course. Developing a procedure for determining proper land use and the means by which governments established land use practices will be stressed. Also emphasized will be society's increasing demands for educational and recreational facilities and programs and how the schools, communities and private organizations can meet these needs. Students in this course will participate directly in certain current land use problems by attending public hearings and doing related field work. This course may not be offered annually.

**0896.515 Environmental Issues and Actions 3 s.h.**

This course focuses on environmental issues and addresses the knowledge and skills needed by instructors to successfully implement issue instruction in the classrooms and in non-formal settings. Participants will develop skills associated with issue analysis, issue investigation, information collection and processing, and citizenship participation. Relevant research will be reviewed. Additional instruction will focus on implementing issue instruction in both classroom and non-formal settings.

**0896.600 Seminar in Environmental Education I 3 s.h.**

This is a research, independent study course designed to give the graduate student a general knowledge of research and evaluation techniques in education and the methods and modes of curriculum development. With these skills, the student will select an M.A. thesis/project topic, review the literature on this topic, select and collect data on this topic and begin the writing of the formal "Master's Thesis/Project." Significant course time is allocated to individual conferences with the instructor and library research and data collection. It is a program objective that graduate students propose and complete a "useful and meaningful" terminal Thesis/Project that is focused on their overall career objectives.

**0896.601 Seminar in Environmental Education II 3 s.h.**

The second half (2nd semester) of a research, independent study course designed to give the student a general knowledge of research and evaluation techniques in education and the methods and modes of curriculum development. During the course of this semester the student will complete a thesis/project started in the previous semester and prepare it for final acceptance by the Graduate Committee and for acceptance and binding by the College Library. In compliance with the Rowan University Graduate Catalogue, a Comprehensive Examination will be given on or about the mid-term of this course. Most course time is allocated to individual conferences with the instructor and library-research time.

**0898 School Public Relations**

**0898.503 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.

**0898.504 School Public Relations Workshop s.h.**

Emphasis is placed on school communications and public relations ideas that can be effectively used in various education institutions. Guest experts join workshop directors in offering public relations techniques and situations. Practical experiences that help prepare the student to handle public relations responsibilities are part of the workshop. May be offered during the summer or on some Saturdays during the regular semesters.

**0901 Engineering, General**

**0901.501 Special Topics in Engineering 3 s.h.**  
*(Prerequisite: Permission of Instructor)*

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.

**0901.502 Finite Element Analysis 3 s.h.**  
*(Prerequisite: Engineering Analysis II or equivalent and Solid Mechanics.)*

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.

**0901.511 Engineering Optimization 3 s.h.**  
*(Prerequisite: 1701.235 or equivalent)*

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.

**0901.599 Master's Thesis Research 1-6 s.h.**  
*(Prerequisite: Permission of advisor)*

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 advisor. 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. The research will culminate in a comprehensive master's thesis. A final oral presentation and defense are required.

**0906 Chemical Engineering**

**0906.502 Special Topics in Chemical Engineering 3 s.h.**

*(Prerequisite: Permission of advisor)*  
This course presents chemical engineering topics related to recent developments in industrial practice or research. May be repeated.

**0906.506 Process Heat Transfer 3 s.h.**  
*(Prerequisite: Permission of advisor)*

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.

**0906.508 Membrane Process Technology****3 s.h.***(Prerequisite: Permission of advisor)*

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.

**0906.510 Biochemical Engineering****3 s.h.***(Prerequisite: Permission of advisor)*

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.

**0906.512 Safety in the Process Industries****3 s.h.***(Prerequisite: Permission of advisor)*

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.

**0906.514 Transport Phenomena for Engineers****3 s.h.***(Prerequisite: Permission of advisor)*

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.

**0906.515 Advanced Reactor Design****3 s.h.***(Prerequisite: Permission of advisor)*

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.

**0906.516 Advanced Separation Process Technology****3 s.h.***(Prerequisite: Permission of advisor)*

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.

**0906.518 Polymer Engineering****3 s.h.***(Prerequisite: Permission of advisor)*

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.

**0906.520 Green Engineering Design in the Chemical Industry****3 s.h.***(Prerequisite: Permission of advisor)*

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.

**0906.528 Fluid Flow Applications in Processing and Manufacturing****3 s.h.***(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.568 Electrochemical Engineering 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.570 Air Pollution Control 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.572 Biomedical Process Engineering 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.574 Advances in Particle Technology 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.576 Bioseparation Processes 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.577 Advanced Engineering Process Analysis and Experimental Design 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.579 Industrial Process Pathways 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.580 Optimization of Engineering Projects 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.581 Advanced Process Analysis 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.582 Food Engineering Systems 3 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

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.

**0906.583 Engineering Exercise Dynamics 4 s.h.**

*(Prerequisite: Graduate standing and approval of graduate advisor)*

This course introduces students to chemical engineering fundamentals applied to physiologic systems, primarily during exercise. The basic biochemistry and physiology required for understanding these systems is presented. Basic principles of mass transfer, heat transfer, fluid flow, thermodynamics, and chemical reaction are used to analyze the human metabolic system, respiratory system,

cardiovascular system, and thermal system. The interrelationships of these systems will be investigated, and their dynamic response to exercise will be studied. Laboratory experiments will be conducted throughout the course. This course is jointly taught with the Department of Health and Exercise Science.

**0906.584 Controlled Release Theory, Technology and Applications 3 s.h.**

*(Prerequisite: Graduate Standing and approval of Graduate Advisor)*

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.

**0908 Civil Engineering**

**0908.503 Special Topics Civil Engineering 1-6 s.h.**

*(Prerequisite: Permission of instructor)*

Civil engineering topics related to recent developments in industrial practice or engineering research. May be repeated.

**0908.504 Engineering Estimating 3 s.h.**

*(Prerequisite: Microeconomics or permission of advisor)*

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.

**0908.512 Advanced Environmental Treatment Process Principles 3 s.h.**

*(Prerequisite: Graduate standing or permission of instructor)*

(Offered every other fall semester.) Topics in Fundamentals of Physicochemical Processes in Environmental Engineering such as Adsorption, Coagulation/Flocculation, Filtration, Sedimentation, Disinfection, Ion Exchange, Chemical Oxidation, Corrosion and Membranes.

**0908.522 Site Remediation Engineering 3 s.h.**

*(Prerequisite: Graduate standing or permission of instructor)*

(Offered fall semesters in odd-numbered years.) 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.

**0908.531 Solid and Hazardous Waste Management 3 s.h.**

*(Prerequisite: permission of instructor)*

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.

**0908.532 Pollutant Fate and Transport 3 s.h.**

*(Prerequisite: Graduate standing or permission of instructor)*

(Offered every other fall semester.) 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.

**0908.533 Integrated Solid Waste Management 3 s.h.**

*(Prerequisite: Permission of instructor)*

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.

**0908.543 Advanced Water Resources Engineering 3 s.h.**

*(Prerequisite: Water Resources Engineering or equivalent)*

The fundamental theme of the course is the study of advanced topics in water resources engineering including the analysis and design of advanced hydraulic structures, hydraulic similitude and modeling, wave action, and advanced hydrology. The course includes appropriate laboratory experiments and computer applications.

**0908.544 Hydraulic Design 3 s.h.**

*(Prerequisite: 0908.342, or permission of instructor)*

(Offered even-numbered years.) The fundamental theme of the course is 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.

**0908.545 Environmental Fluid Mechanics 3 s.h.**

*(Prerequisite: (0908.342, or permission of instructor)*

(Offered even-numbered years.) The fundamental theme of the course is 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. The course includes appropriate laboratory and/or field experiments and computer applications.

**0908.552 Foundation Engineering 3 s.h.**

*(Prerequisite: Geotechnical Engineering or equivalent)*

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 laboratory experiments and computer applications.

**0908.553 Earth Retaining Systems 3 s.h.**

*(Prerequisite: Geotechnical Engineering or equivalent)*

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.

**0908.562 Advanced Transportation Engineering 3 s.h.**

*(Prerequisite: Transportation Engineering or equivalent)*

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.

**0908.563 Advanced Pavement Analysis and Evaluation 3 s.h.**

*(Prerequisite: 0908.461, or permission of instructor)*

(Offered odd-numbered years.) 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.

**0908.564 Advanced Design of Elements of Transportation Engineering 3 s.h.**

*(Prerequisite: 0908.461, or permission of instructor)*

(Offered even-numbered years.) 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.

**0908.573 Advanced Structural Analysis 3 s.h.**

*(Prerequisite: Structural Engineering I, II, and III or equivalent)*

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.

**0908.584 Prestressed Concrete 3 s.h.**

*(Prerequisite: Structural Engineering I or equivalent)*

The fundamental theme of the course is the 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.

**0908.585 Advanced Reinforced Concrete 3 s.h.**

*(Prerequisite: Structural Engineering I or permission of advisor)*

The fundamental theme of the course is the design of advanced reinforced concrete structures and structural components including two-way slabs, footings, retaining walls, shear walls, and slender columns.

**0908.586 Bridge Engineering 3 s.h.**

*(Prerequisite: Structural Engineering I, II and III or equivalent)*

The fundamental theme of the course is the analysis and design of modern steel highway bridges utilizing the bridge code of the American Association of State Highway and Transportation Officials. 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.

## 0909 Electrical and Computer Engineering

### 0909.504 Special Topics in Electrical and Computer Engineering 3 s.h.

This course covers timely topics in electrical and computer engineering related to engineering practice and/or research.

### 0909.551 Digital Signal Processing 3 s.h. (Prerequisite: Background in basic signal theory)

This is a first level graduate course that covers the fundamentals of digital signals, systems, transforms and filters. Systems concepts taught include linearity, time-invariance, stability, causality, difference equation representation, impulse response and convolution. The issue of frequency response and sampling is covered. The z-transform is introduced. Design methods and structures of digital filters are discussed with the exposure to do software design. Random digital signals are also covered.

### 0909.552 Digital Image Processing 3 s.h. (Prerequisite: 0909.351)

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.

### 0909.553 Digital Speech Processing 3 s.h. (Prerequisite: 0909.351)

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.

### 0909.554 Theory and Engineering Applications of Wavelets 3 s.h. (Prerequisite: 0909.351)

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.

### 0909.560 Artificial Neural Networks 3 s.h. (Prerequisite: 1701.236)

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.

### 0909.571 Instrumentation 3 s.h. (Prerequisite: Background of hardware, software and experimentation)

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.

## 0910 Mechanical Engineering

### 0910.501 Computer Integrated Manufacturing and Automation 3 s.h.

(Prerequisite: Engineering Materials II or equivalent)  
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.

### 0910.505 Special Topics in Mechanical Engineering 3 s.h.

The topics will be announced in the course schedule.

### 0910.511 Combustion 3 s.h. (Prerequisite: Engineering Thermodynamics II or equivalent)

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.

**0910.512 Rocket Propulsion 3 s.h.**

*(Prerequisite: Prerequisites: 0910.312 and 0910.313 or equivalent)*

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.

**0910.514 Energy Conversion Systems 3 s.h.**

*(Prerequisite: Prerequisites: 0910.312 & 0901.341 or equivalent)*

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.

**0910.521 Gas Dynamics 3 s.h.**

*(Prerequisite: 0910.312, 910.313, or equivalent)*

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.

**0910.522 Computational Fluid Dynamics 3 s.h.**

*(Prerequisite: 0910.312, 0910.313, or equivalent)*

This course serves as an overview of the techniques used to solve problems in fluid mechanics on computers and describes in detail those most often used in practice. Included are advanced techniques in computational fluid dynamics, like direct

and large-eddy simulation of turbulence, multigrid methods, parallel computing, moving grids, structured, block-structured and unstructured boundary-fitted grids, free surface flows. The issues of numerical accuracy, estimation and reduction of numerical errors are treated in detail with many examples. An independent research project will be required on an advanced topic of mutual interest between the student and the instructor.

**0910.541 Advanced Mechanism Design 3 s.h.**

*(Prerequisite: Undergraduate degree in engineering or permission of advisor)*

This course presents an in-depth 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.

**0910.551 Mechanics of Continuous**

**Media**

**3 s.h.**

*(Prerequisite: Math for Engineering Analysis II or equivalent, Solid Mechanics )*

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.

**0910.552 Structural Acoustics 3 s.h.**

*(Prerequisite: 0910.201)*

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.

**0910.553 Analytical Dynamics 3 s.h.**

*(Prerequisite: Math for Engineering Analysis II or equivalent, Dynamics, Vibrations )*

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.

**1002 Art**

**1002.523 Graduate Painting I 3 s.h.**

Advanced graduate work in concepts, techniques and media appropriate to contemporary painting and individual expression.

**1002.524 Graduate Painting II 3 s.h.**

*(Prerequisite: 1002.523)*

Further advanced work in painting.

**1002.526 Graduate Sculpture I 3 s.h.**

Advanced graduate work in concepts, techniques and media appropriate to contemporary sculpture and individual expression.

**1002.527 Graduate Sculpture II 3 s.h.**

*(Prerequisite: 1002.526)*

Further advanced work in sculpture.

**1002.532 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.

**1002.533 Graduate Printmaking II 3 s.h.**

*(Prerequisite: 1002.532)*

Further advanced work in printmaking.

**1002.535 Advanced Graduate Problems in Art 3 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.

**1003 Art History**

**1003.525 Graduate Problems in Art History 3 s.h.**

*(Prerequisite: undergraduate core foundation similar to Art History Survey I, II, and III (6-9 s.h.), and/or permission of instructor )*

Problems in Art History at the graduate level is an intensive investigation of a specific movement, style, medium, or major artist. Content will change each time the course is offered. Check the Schedule of Classes to determine specific area of study.

**1004 Music - Performing, Composition, Theory**

**1004.500 Applied Major 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.

**1004.501 Applied Major 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.

**1004.502 Applied Major 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.

**1004.503 Applied Major 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.

**1004.504 Advanced Woodwind, Brass-Percussion, Strings, Piano 2 s.h.**

These courses are intended to develop skills in performance on the various instruments beyond the undergraduate level. Particular emphasis will be placed on the teaching of these instruments and on the latest developments in methodology and pedagogy.

**1004.505 Advanced Woodwind, Brass-Percussion, Strings, Piano 2 s.h.**

These courses are intended to develop skills in performance on the various instruments beyond the undergraduate level. Particular emphasis will be placed on the teaching of these instruments and on the latest developments in methodology and pedagogy.

**1004.506 Advanced Woodwind, Brass-Percussion, Strings, Piano 2 s.h.**

These courses are intended to develop skills in performance on the various instruments beyond the undergraduate level. Particular emphasis will be placed on the teaching of these instruments and on the latest developments in methodology and pedagogy.

**1004.507 Advanced Woodwind, Brass-Percussion, Strings, Piano 2 s.h.**

These courses are intended to develop skills in performance on the various instruments beyond the undergraduate level. Particular emphasis will be placed on the teaching of these instruments and on the latest developments in methodology and pedagogy.

**1004.508 Instrumental Procedures 2 s.h.**

Designed as a laboratory course for instrumental instructor in organization of rehearsal techniques and instrumental problems in the elementary, secondary, and junior college curricula.

**1004.510 Applied Major Voice I 2 s.h.**

Private instruction in techniques of singing. Designed to guide the development of students toward the realization of his fullest potential as performers.

**1004.511 Applied Major Voice II 2 s.h.**

Private instruction in techniques of singing. Designed to guide the development of students toward the realization of his fullest potential as performers.

**1004.512 Applied Major Voice III 2 s.h.**

Private instruction in techniques of singing. Designed to guide the development of students toward the realization of his fullest potential as performers.

**1004.513 Applied Major Voice IV 2 s.h.**

Private instruction in techniques of singing. Designed to guide the development of students toward the realization of his fullest potential as performers.

**1004.514 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.

**1004.515 Graduate Applied Voice I 4-6 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.

**1004.516 Graduate Applied Voice II 4-6 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.

**1004.520 Applied Major Conducting I 4-6 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.

**1004.521 Applied Major Conducting II 4-6 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.

**1004.522 Applied Major Conducting III 4-6 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 applied conducting sequence, the student is expected to serve as Assistant Conductor of an appropriate ensemble at the discretion of the conducting faculty.

**1004.523 Applied Major Conducting IV 4-6 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 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.

**1004.524 Conducting I (Instrumental) 3 s.h.**  
Full scores for major orchestral and concert band works are studied in the class. Baton technique required to interpret these works is demonstrated and practiced.

**1004.525 Conducting II (Vocal) 3 s.h.**  
In this class emphasis is placed on choral rehearsal techniques and procedures as they apply to vocal music organizations.

**1004.526 Applied Music Instrumental I 4-6 s.h.**  
Private instruction on an instrument or in conducting, preparing the student for performance of a successful public graduate recital.

**1004.527 Applied Music Instrumental II 4-6 s.h.**  
Private instruction on an instrument or in conducting, preparing the student for performance of a successful public graduate recital.

**1004.528 Applied Music Instrumental III 4-6 s.h.**  
Private instruction on an instrument or in conducting, preparing the student for performance of a successful public graduate recital.

**1004.529 Applied Music Instrumental IV 4-6 s.h.**  
Private instruction on an instrument or in conducting, preparing the student for performance of a successful public graduate recital.

**1004.530 Applied Major Composition I 2-6 s.h.**  
Private instruction in composition. Designed to guide the development of students toward the realization of their creative talents in the writing of musical compositions.

**1004.531 Applied Major Composition II 2-6 s.h.**  
Private instruction in composition. Designed to guide the development of students toward the realization of their creative talents in the writing of musical compositions.

**1004.532 Applied Major Composition III 2-6 s.h.**  
Private instruction in composition. Designed to guide the development of students toward the

realization of their creative talents in the writing of musical compositions.

**1004.533 Applied Major Composition IV 2-6 s.h.**  
Private instruction in composition. Designed to guide the development of students toward the realization of their creative talents in the writing of musical compositions.

**1004.534 Graduate Music Composition I 4 or 6 s.h.**  
*(Prerequisite: Acceptance to the Master of Music or permission of the instructor )*

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.

**1004.535 Graduate Music Composition II 4 or 6 s.h.**  
*(Prerequisite: 1004.534)*

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.

**1004.536 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.

**1004.537 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.

**1004.540 Jazz Arranging and Composition 3 s.h.**  
*(Prerequisite: Acceptance to the Master of Music in Jazz or permission of the instructor )*  
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.



**1004.541 Jazz Piano 1 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Jazz)*

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.

**1004.545 Opera Role Study I 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Voice)*

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.

**1004.546 Opera Role Study II 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Voice)*

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.

**1004.551 Piano Accompanying I 1 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Piano or permission of instructor )*

This course in applied piano accompanying will pair the student with a vocal or instrumental student under the supervision of the piano instructor.

**1004.552 Piano Accompanying II 1 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Piano or permission of the instructor )*

This course in applied piano accompanying will pair the student with a vocal or instrumental student under the supervision of the piano instructor.

**1004.553 Guitar Accompanying I 1 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Guitar or permission of the instructor )*

This course in applied guitar accompanying will pair the student with a vocal or instrumental student under the supervision of the guitar instructor. Students will learn to interact musically with the soloist and to begin to know the collaborative literature for guitar and other instruments.

**1004.555 Counterpoint 3 s.h.**

*The principles of counterpoint and its practical application in musical literature are studied.*

**1004.557 Advanced Orchestration 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Instrumental Conducting or permission of the instructor)*

This course will introduce the conducting student to the practical considerations of performance on orchestral instruments and their use in orchestral repertoire.

**1004.560 Form and Analysis 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music or permission of the instructor)*

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.

**1004.561 Score Reading I 1 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Instrumental Conducting or permission of the instructor; demonstrated proficiency in solfeggio (fixed Do) including the "C" clefs; and early/intermediate keyboard skills)*

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.

**1004.562 Score Reading II 1 s.h.**

*(Prerequisite: 1004.561)*

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.

**1004.565 Seminar in Band Conducting 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Band Conducting or permission of the instructor)*

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.

**1004.570 20th Century Literature and Techniques 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music program or permission of the instructor )*

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.

**1004.575 CD Project 2 s.h.**

*(Prerequisite: acceptance to the Master of Music in Jazz, 1004.540, 1004.541 )*

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.

**1005 Music - Liberal Arts Program**

**1005.547 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.

**1006 Music History and Appreciation**

**1006.503 Jazz History 3 s.h.**

This course presents an overview of jazz history and requires the student to prepare in-depth 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.

**1006.505 History and Literature of Guitar and Lute 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music program)*

This course provides in-depth study of the literature of the family of plucked instruments, especially the guitar and lute, from the Renaissance to the present day.

**1006.506 Art Song Literature 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Voice or permission of the instructor)*

The in-depth 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.

**1006.509 String Instrument Literature 3 s.h.**

*(Prerequisite: acceptance to the Master of Music in Strings or permission of the instructor )*

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.

**1006.510 Keyboard Literature 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music program or permission of the instructor )*

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.

**1006.511 Twentieth Century Band Literature 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music in Band Conducting or permission of the instructor)*

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.

**1006.515 Organ Literature 3 s.h.**

*(Prerequisite: Acceptance to the Master of Music program or permission of the instructor )*

The course will present the vast literature for the organ, a history of the instrument, and a perform-

ance context for the repertoire reviewed. Students will study and analyze the monuments of the organ repertoire from the 14th century to the present. They will choose and deeply explore at least one area of the repertoire and present written documents about their chosen area.

**1006.542 Opera Literature 3 s.h.**  
(Prerequisite: *Acceptance to the Master of Music in Voice or permission of the instructor*)

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.

**1006.545 Development and Interpretation of Choral Literature 3 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.

**1006.546 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.

## 1007 Dramatic Arts

**1007.501 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.

**1007.502 Studies in World Theatre History and Criticism 3 s.h.**

(Prerequisite: *1007.501 or permission of the instructor*)

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.

**1007.503 Studies in American Theatre History and Criticism 3 s.h.**

(Prerequisite: *1007.501 or permission of the instructor*)

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.

**1007.504 Seminar in Contemporary World Theatre and Drama 3 s.h.**

(Prerequisite: *1007.501 or permission of the instructor*)

From a list of selected topics, this course will investigate major trends and the work of significant playwrights, directors, designers and other theatre practitioners in the period since 1950. Particular focus will be given to topics of current concern to the theatre educator and the theatre professional. Several short papers and a major research paper are required.

**1007.505 Independent Study in Graduate Theatre 3 s.h.**

(Prerequisite: *1007.501, permission of the instructor*)

Students will pursue research in an area of theatre study determined by the student in consultation with the advisor. The project can include examination of performance activities, historical or critical concerns or any other area of concern to the student.

**1007.506 Scenography: Process and Product 3 s.h.**

This course studies the function of design elements within the production process. It will focus on the evolution of design ideas through the exchange of views among directors and designers and the process which turns these ideas into the physical matter used in production. The student's basic visual communication skills will be enhanced by learning essential theatrical drafting and modeling techniques.

**1007.507 Challenges in Design & Technical Production 3 s.h.**

(Prerequisite: *1007.506 or permission of the instructor*)

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.

**1007.508 Seminar in Directing:  
Working With the Actor 3 s.h.**

*(Prerequisite: 1007.501 or permission of the instructor)*

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.

**1007.509 Special Problems in Directing 3 s.h.**

*(Prerequisite: 1007.508 or permission of the instructor)*

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.

**1007.510 Musical Theatre Production 3 s.h.**

Utilizing a workshop format, this course will look at musical theatre in the school, college, community theatre or little theatre setting and consider practical solutions to problems of production and staging. Focus will be on the working relationships among members of the musical theatre production team.

**1007.511 Production/Performance  
Project 3-6 s.h.**

*(Prerequisite: 1007.501, permission of department Graduate Committee)*

This activity enables students to use production work as a centerpiece for a project that associates production/performance work with writing and research. For this course, students may write, design, direct, choreograph or perform in an approved production activity on a Rowan stage. Combined with further research and writing, the project provides the student with an in-depth look at production activity in a wider context. This project may also serve as the basis for the M.A. thesis.

**1007.515 Internship in Theatre 3-6 s.h.**

*(Prerequisite: Permission of the department Graduate Committee)*

This credit is earned for practical experience with a theatre or theatre-related company, in an acting, directing, design/production, management or dramaturgy. In general, 3 semester hours are given for a full semester or summer in such a setting; the course may be repeated to a maximum of 6 s.h. The prospective internship and duties must be approved in advance by the department before credit can be considered.

**1007.520 Thesis Research and Writing 6 s.h.**

*(Prerequisite: 1007.501, completion of 17 s.h. in the theatre program, and the approval of advisor)*

This credit is earned for time spent researching and writing the master's thesis under the supervision of a faculty advisor. The student reports to the advisor on a regular basis during this period. The finished thesis must be approved by a committee composed of the advisor 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).

**1007.570 On-site Theatre Study 3 s.h.**

This course offers students the opportunity to study theatre and drama at important theatrical centers in the United States or abroad, under the supervision of a faculty leader. Study includes such things as attendance at productions, discussions with theatre practitioners, tours of theatres and specialized workshops as well as investigation of the area's other important historical and cultural sites. Students will incur additional travel and program costs which vary according to study site selected. Students are required to submit a final written project. The course may be repeated under a different subtitle. This course may not be offered annually.

**1009 Applied Design**

**1009.512 Graduate Crafts Studio/  
Seminar 3 s.h.**

*(Prerequisite: 1007.501, 1007.501 or permission of the instructor)*

A seminar/lecture/studio that deals with important historical and contemporary concepts, trends, and images in crafts. Emphasis placed on strong individually directed inquiry into specific craft areas.

**1009.520 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.

**1009.521 Jewelry II 3 s.h.**

Further advanced work. This course may not be offered annually.

**1009.524 Ceramics I 3 s.h.**

An intensified exploration of throwing, glazing, and firing processes as related to aesthetic consideration in contemporary art forms and past cultures. Permission of the instructor is strongly advised.

**1009.525 Ceramics II 3 s.h.**

Further advanced work. This course may not be offered annually.

**1011 Photography**

**1011.540 Still and Video Photography for Educators 3 s.h.**

*(Prerequisite: 0833.574, 0833.580)*

This course is designed to help the in-service educator accomplish two goals: (1) to plan and produce still and video photography, both analog and digital, so that they can (2) teach their students to take and make still and video photography part of their ongoing learning activities. In addition, the graduate student will learn a variety of ways to integrate the language arts and the visual arts as a means of self expression while actively creating still and video photography, an electronic portfolio which can be used as an end of year assessment, and for both the graduate student and their students.

**1601 School and Public Librarianship**

**1601.502 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.

**1601.503 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.

**1601.505 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.

**1601.506 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.

**1601.507 Managing Library Programs 3 s.h.**

*(Prerequisite: Matriculation into the School and Public Librarianship master's program )*

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.

**1601.510 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.

**1601.511 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.

**1601.516 School Media Centers for Teaching and Learning 3 s.h.**

*(Prerequisite: Matriculation into the School and Public Librarianship master's program )*  
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.

**1601.521 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.

**1601.525 Reference Resources and Services II 3 s.h.**

*(Prerequisite: 1601.505 or permission of the instructor)*  
Building on previous coursework, this course is devoted to understanding and serving the information needs of the general adult public. Reference skills, resources, and materials in a variety of disciplines will be studied. Students will observe at a library reference desk for 10 hours during the semester.

**1601.528 Workshop in Library Services 1-6 s.h.**

This course is designed for in-service media specialists and librarians. Topics will be selected to meet continuing and emerging needs in professional practice, combining hands-on activities with theory to allow students to develop and increase skills.

**1601.530 Library Technology 3 s.h.**

*(Prerequisite: Matriculation in the School and Public Librarianship master's program )*  
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.

**1601.531 Serving the Library's Publics 3 s.h.**

*(Prerequisite: 1601.506)*  
Students examine the role of the public library in its community beyond the provision of materials and information. Students learn to plan, design, implement, and evaluate programs of service and activities for identified and diverse clientele; create community information databases; and collaborate with other agencies. Ten hours of field observation are required.

**1601.532 Library Materials for Adults 3 s.h.**

This course focuses on library materials to meet the demands of adult patrons for popular reading, listening, and viewing. Topics include: methods of identifying and selecting recreational and cultural materials for various audiences of adult public library users, including new readers and minorities; trends in publishing and distribution of popular materials; and using recreational resources for programming and promotion.

**1601.550 Independent Study in Library Services 1-6 s.h.**

*(Prerequisite: Permission of the chair of Secondary Education, the graduate program advisor )*  
This course is designed for an individual who wishes to study a topic or subject in library and information science not included in the listed offerings of the program. The student undertakes an independent study under the supervision of a faculty member in the Program in School and Public Librarianship. May not be offered every semester.

**1601.570 Selected Topics in Librarianship 1-6 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.

**1601.580 Practicum in Library Services 1- 3 s.h.**

*(Prerequisite: Matriculation in the School and Public Librarianship master's program, 15 credits of library science courses or permission of graduate program advisor )*

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.

**1601.600 Graduate Thesis in Library Services I 3 s.h.**

*(Prerequisite: Matriculation in the School and Public Librarianship master's program, 0824.501 )*

Students select and justify a topic for a research project to be completed as a graduate thesis, including a comprehensive literature search and selection of the research methodology. Students also complete their Program Portfolio as a capstone experience.

**1601.601 Graduate Thesis in Library Services II 3 s.h.**

*(Prerequisite: Matriculation in the School and Public Librarianship master's program, 1601.600 )*

Completion of the research project selected in Graduate Thesis in Library Services I.

**1701 Mathematics, General****1701.500 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.

**1701.502 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.

**1701.503 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.

**1701.504 Introduction to Mathematical Logic 3 s.h.**

This course includes intuitive set theory, relations and functions, sentential calculus, predicate calculus, mathematical systems, axiomatic theories.

**1701.505 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 advisor, this course should not be chosen if a corresponding similar course has been part of the student's undergraduate study.

**1701.507 Differential Geometry 3 s.h.**

*(Prerequisite: 1701.210, 1701.230, or permission of the instructor)*

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.

**1701.510 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.

**1701.511 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.

**1701.512 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.

**1701.513 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.

**1701.520 Topics in Applied Mathematics 3 s.h.**

*(Prerequisite: 1701.231, 1701.502)*

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.

**1701.521 Nonlinear Differential Equations 3 s.h.**

*(Prerequisite: 1701.231)*

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.

**1701.522 History of Mathematics 3 s.h.**

*(Prerequisite: Two semesters of undergraduate calculus)*

Topics will include: Babylonian, Egyptian and Greek mathematics. Attention will be given to the development of trigonometry, algebra, analytic geometry and the calculus.

**1701.523 Selected Topics in Mathematics 1-6 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.

**1701.524 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 advisor, this course should not be chosen if a corresponding similar course has been part of the student's undergraduate study.

**1701.525 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 advisor, this course should not be chosen if a similar course has been part of the student's undergraduate program.

**1701.526 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.

**1701.527 Abstract Algebra II 3 s.h.**

The continuation of Abstract Algebra I covering advanced material from group theory, ring theory and field theory.

**1701.529 Numerical Analysis 3 s.h.**

*(Prerequisite: 1701.102, 1701.131, 1701.210, 1701.230, one semester of graduate analysis or permission of the instructor)*

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.

**1701.533 Graduate Seminar in Mathematics 3 s.h.**

*(Prerequisite: One year of graduate level mathematics courses or permission of the instructor)*

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.



**1701.550 Independent Study 2-6 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.

**1701 Mathematics-General****1701.515 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.

**1703 Applied Mathematics****1703.511 Operations Research I 3 s.h.**

*(Prerequisite: Enrollment in the M.A. in Mathematics or permission of the instructor)*

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.

**1703.512 Operations Research II 3 s.h.**

*(Prerequisite: Enrollment in the M.A. in Mathematics or permission of the instructor)*

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.

**1703.550 Topics in Discrete Mathematics 3 s.h.**

*(Prerequisite: 0701.540 or permission of the instructor)*

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.

**1703.600 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.

**1901 Physical Sciences, General****1901.545 Selected Topics in Physical Science 3 s.h.**

Part A: Atomic structure; periodic classification of elements; structure and nomenclature of complex inorganic salts and mineral compounds; modern theories of acids, bases, and salts; oxidation-reduction reactions; solutions; chemical equilibrium and nuclear chemistry. Part B: Measurement in physics' the nature, properties and phenomena of wave motion and sound; geometric optics, spectroscopy and optical equipment. This course may not be offered annually.

**1902 Physics****1902.525 Mathematical Methods in Physics 3 s.h.**

*(Prerequisite: 1701.131, 1902.201)*

The following topics are studied as they apply to the solution of problems in physics: infinite series, complex numbers, determinants and matrices, partial differentiation, vector analysis and calculus,

and Fourier series. The requirements of this course also include independent study of topics not discussed in class. The student will be expected to turn in a paper demonstrating his ability to solve problems in two or more of the following topics: calculus of variations, gamma and beta functions, coordinate transformations and tensor analysis, functions of a complex variable, series solutions of differential equations, integral transforms, and partial differential equations. Admission to the course will be at the discretion of the graduate advisor.

**1902.527 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.

**1902.528 Electricity and Magnetism I 3 s.h.**

*(Prerequisite: 1902.201, 1902.325, or 1902.525, or permission of the instructor)*

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.

**1902.529 Electricity and Magnetism II 3 s.h.**

*(Prerequisite: 1902.528 or permission of the instructor)*

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.

**1902.530 Applied Physics Lab 4 s.h.**

*(Prerequisite: 1902.300 or 1902.563)*

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.

**1902.541 Quantum Mechanics I 3 s.h.**

*(Prerequisite: 1902.300 or 1902.563; 1902.325 or 1902.525 or permission of the instructor)*

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.

**1902.542 Quantum Mechanics II 3 s.h.**

*(Prerequisite: 1902.541 or permission of instructor)*

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.

**1902.555 Mechanics 3 s.h.**

*(Prerequisite: 1902.201 or 1902.203, 1701.131)*

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 advisor. This course may not be offered annually.

**1902.559 Light 4 s.h.**

*(Prerequisite: 1701.131, and 1902.201 or 1902.203)*

Geometrical and physical optics are treated. Study is made of reflection, refraction, lenses (thin and thick) and systems of lenses. Consideration is given to dispersion, diffraction, interference and polarization. The use of these effects in spectroscopy and polarimetry is emphasized. 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 may not be offered annually.

**1902.561 Electronics 4 s.h.**

*(Prerequisite: 1701.130, 1902.201 or 1902.203)*

A basic course in the theory of generation and detection of electromagnetic waves leading to a study of vacuum tubes, rectifiers, amplifiers, oscillators, oscilloscopes, electronic switches and wave generators. 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 may not be offered annually.

**1902.563 Atomic Physics 4 s.h.**

*(Prerequisite: 1701.131, 1902.201 or 1902.203)*

Considers the molecular structure of matter and the structure of the atom. Studies the kinetic theory of gases, the photoelectric effect, x-rays and their properties, the wave properties of matter, the Bohr model of the atom and the excitation states of the atom. 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 may not be offered annually.

**1905 Chemistry, General****1905.530 Special Topics in Chemistry 3 s.h.**

*(Prerequisite: Permission of the instructor)*

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.

**1905.550 Advanced Seminar 1 s.h.**

*(Prerequisite: Permission of the instructor)*

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.

**1907 Organic Chemistry****1907.558 Advanced Biochemistry 4 s.h.**

*(Prerequisite: 0414.348 or 0414.548)*

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.

**1907.565 Organic Reactions and Mechanisms 3 s.h.**

*(Prerequisite: 1907.301)*

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 advisor. This course may not be offered annually.

**1907.570 Organic Spectroscopy 4 s.h.**

*(Prerequisite: 1907.301, 1909.350)*

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 advisor. This course may not be offered annually.

**1907.580 Synthesis of Polymers 4 s.h.**

*(Prerequisite: 1906.100, 1907.301, Permission of the instructor)*

This course provides an in-depth study of the procedures, techniques and theoretical aspects of polymer synthesis. Reaction mechanisms including kinetic

and thermodynamic considerations will be studied. The topic of polymer synthesis will be examined from raw material sources through product usage. The laboratory experiments will provide exposure to representative procedures and techniques.

**1907.582 Characterization of Polymers 4 s.h.**  
(Prerequisite: 1906.100, 1097.301, 1907.475,  
*Permission of the instructor*)

This course provides an in-depth study of the procedures, techniques and theoretical aspects of polymer characterization. Major topics include molecular weight determinations, polymer solutions, viscoelasticity and bulk properties. The laboratory experiments will provide exposure to representative procedures and techniques with emphasis on molecular weight determination and thermal methods.

## 1908 Physical Chemistry

**1908.545 Quantum Mechanics 3 s.h.**  
(Prerequisite: 1701.230, 1908.401)

Course includes basic concepts of quantum mechanics including orbitals, perturbation and variation theory; rotational and vibrational motion; and spectroscopy. This course may not be offered annually.

**1908.550 Thermodynamics I 3 s.h.**  
(Prerequisite: 1908.401)

Advanced concepts in chemical thermodynamics including an introduction to statistical mechanics are considered. The requirements of this course include a graduate research paper. Admission to the course will be at the discretion of the graduate advisor. This course may not be offered annually.

## 1909 Analytical Chemistry

**1909.510 Instrumental Analysis 4 s.h.**  
(Prerequisite: 1908.401, 1909.350)

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 advisor. This course may not be offered annually.

## 1917 Earth Sciences

**1917.520 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 with-in and upon the surface of Earth. This course may not be offered annually.

## 1918 Paleontology

**1918.530 Marine Micropaleontology (Lecture and Laboratory) 4 s.h.**

(Prerequisite: 0401.100, 0401.101 or permission of the instructor)

A taxonomic, ecologic and stratigraphic consideration of the common marine fossil microorganism. Research project report and field trips required. Offered at the N.J. Marine Science Consortium field station. This course may not be offered annually.

## 2001 Psychology, General

**2001.560 Research Designs in Applied Psychology I 3 s.h.**

(Prerequisite: 6 s.h. of undergraduate statistics and research methods, admission to the program, or permission of the instructor)

This is a graduate level introduction to research methods and statistical procedures commonly used in psychological research. Students will develop skills necessary to critically evaluate and interpret both research designs and statistical methods, thus allowing them to develop their own research, while at the same time becoming better consumers of research. This course focuses on ethical issues surrounding the use of human and animal participants, the appropriate use and interpretation of descriptive and inferential statistics, and an understanding of the statistics used in correlational research based on the general linear model.

**2001.562 Research Designs in Applied Psychology II 3 s.h.**

(Prerequisite: 6 s.h. of undergraduate statistics and research methods, admission to the program, 2001.560, or permission of the instructor)

This is a graduate level introduction to research methods and statistical procedures commonly used in experimental psychological research. Students will develop skills necessary to critically evaluate and interpret both research designs and statistical methods, thus allowing them to develop

their own research while becoming better consumers of research. Students will learn how to present their own research. The fundamental principles, practices and applications of needs assessment and program evaluation are also covered in this course.

**2001.570 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.

**2001.610 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.

**2001.611 Counseling and Psychotherapy 3 s.h.**  
(Prerequisite: 2001.621, 2009.595)

This course will provide the student with an understanding of fundamental skills, principles and theories of counseling. Issues addressed will include characteristics and behaviors of the client and counselor that influence the helping process. The application of counseling approaches across diverse contexts and populations will be covered.

**2001.612 Group Counseling and Psychotherapy 3 s.h.**

(Prerequisite: 2001.611, 2009.595)

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.

**2001.620 Legal and Ethical Issues in Counseling 3 s.h.**

(Prerequisite: Admission to the Masters in Mental Health Counseling program (G209) or permission of the instructor )

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.

**2001.621 Psychopathology 3 s.h.**

Advanced study of the major forms of psychological disorders. Emphasis is placed on the dynamics leading to these disorders and the psychological treatment of them. Field trips to psychiatric institutions may be included.

**2001.622 Perception 3 s.h.**

Consideration of perception as an information-extraction process, perceptual hierarchy, perceptual constancies, major learning, cultural and social determinants of perception and roles of perception in establishing sets, concept formation, problem solving and creative thinking. Previous acquaintance with general psychology or human behavior and development is assumed.

**2001.630 Family Systems Theory and Family Therapy 3 s.h.**

(Prerequisite: 2009.595, 2001.611, 2001.621 )

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.

**2001.650 Practicum in Counseling 9 s.h.**  
*(Prerequisite: Enrollment in Masters in Mental Health Counseling program, permission of the instructor )*

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.

**2001.685 Masters Thesis in Psychology I 6 s.h.**  
*(Prerequisite: 2001.570)*

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.

**2001.687 Masters Thesis in Psychology II 3 s.h.**  
*(Prerequisite: 2001.685)*

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.

**2003 Clinical Psychology**

**2003.518 Psychological Evaluation and Counseling Services to Combat Alcohol and Drug Abuse 3 s.h.**  
*(Prerequisite: 2009.512)*

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.

**2003.620 Cognitive-Behavioral Treatment Strategies 3 s.h.**

*(Prerequisite: 2001.621, 2002.611, 2009.595 )*

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.

**2003.620 Cognitive-Behavioral Treatment Strategies 3 s.h.**

*(Prerequisite: 2001.621, 2002.611, 2009.595 )*

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.

**2003.624 Psychopathology of Childhood and Adolescence 3 s.h.**

*(Prerequisite: 2009.511, 2009.587 or course equivalents)*

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.

**2005 Social Psychology**

**2005.501 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.

**2005.502 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 addiction. 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.

**2005.610 Social and Cultural Diversity 3 s.h.**

This course will review studies that provide an understanding of the issues and trends in a multi-cultural 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.

**2005.623 Social Psychology 3 s.h.**

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.

**2006 Psychometrics**

**2006.533 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.

**2006.540 Psychological Concepts in Human Computer Interaction 3 s.h.**

This course will explore insights from cognitive psychology, learning theory, clinical psychology, social psychology, human factors, industrial/organizational psychology, and educational psychology

to enhance the integration of computers into both workplaces and schools. This course addresses the new social concerns brought about from the expected fit of the human-computer interface both from the perspective of individual adjustment and social process.

**2006.627 Individual Psychodiagnostics I 3 s.h.**

This course will focus on an overview of theories of intelligence. Administration and interpretation of the Wechsler Scales will also be a course competency; administration and interpretation of visual-motor school psychology and the history and foundations of school psychology will also be discussed.

**2006.628 Individual Psychodiagnostics II 3 s.h.**

This course will focus on non-biased assessment. Administration and interpretation of the Stanford-Binet, 4th edition, and the Kaufman Assessment Battery for Children will be course competencies as well as administration and interpretation of adaptive behavioral scales. Specific topics related to legal and ethical issues and standards will also be discussed.

**2006.629 Individual Psychodiagnostics III 3 s.h.**

*(Prerequisite: 2006.628, 2006.657, permission of graduate advisor)*

Concerned with an examination of basic theory of projective psychology and research related to entire area. Emphasis will be placed upon developing proficiency in administering, scoring and interpreting the Thematic Apperception Test and Children's Apperception Test.

**2006.630 Individual Psychodiagnostics IV 3 s.h.**

*(Prerequisite: 2006.629, permission of program advisor)*

Concerned primarily with the Rorschach Test in terms of basic theory and research related to it. Emphasis will be placed upon developing skills of administration, scoring and interpretation with the Rorschach.

**2006.631 Psychological Testing of the Preschool Child 3 s.h.**

*(Prerequisite: 2006.511, 2006.533, permission of program advisor)*

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.

**2006.632 School Psychology: Consultation and Intervention 3 s.h.**

*(Prerequisite: 2006.533, 2006.627)*

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.

**2009 Developmental Psychology**

**2009.511 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.

**2009.512 Developmental Psychology of Alcohol and Drug Abuse 3 s.h.**

This course addresses the psychological issues of drug and alcohol abuse in the context of the developmental psychology of childhood and adolescence. Developmental considerations in prevention and intervention programming are emphasized. The insight of developmental psychology concerning normal developmental processes are integrated with family systems theory.

**2009.560 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.

**2009.587 Adolescent Psychology 3 s.h.**

This course is designed to help those college graduates who are preparing to become secondary school teachers to understand the behaviors,

goals, motivations and drives of the students with whom they will be working. The unique characteristics of this age group will be treated in some detail.

**2009.589 Psychology of Human Relationships 3 s.h.**

The course focus is on the organization and effective use of processes involved in personal and interpersonal relationships.

**2009.594 Psychology of Personality 3 s.h.**

*(Prerequisite: One or more undergraduate psychology courses)*

This course studies the current theories of personality. Attention is given to the physical, social, and psychological factors which influence personality development.

**2009.595 Introduction to Counseling 3 s.h.**

This course is designed to provide mental health counselors with counseling foundation skills. These include the development of professional identity, observation skills, and microcounseling skills or interactive skills, observation skills such as the use of empathy and attending skills. The course also reviews mental status exams, and the content areas required for an initial intake. Students are expected to demonstrate these skills through the use of role plays and videotapes.

**2010 Physiological Psychology**

**2010.315 Physiological Psychology 3 s.h.**

Course includes molecular and molar studies of the nervous system; control centers of emotion and consciousness; biochemical changes in the nervous system due to drugs, disease, chemicals, nutrition, radiation, electrical shock, psychosomatic factors, accidents and injuries. In-depth study of one interest area and experiences in laboratory instrumentation in physiology of learning.

**2010.610 Psychopharmacology 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.



## 2204 Economics

### 2204.502 Current Economic Issues for the Classroom 3 s.h.

Course is targeted for elementary and secondary teachers. The course will focus such timely issues as the global economy, the federal deficit, the monetary system, the environmental problem, and a survey of the recent performance and problems of the American economy. Course will feature several speakers, for example, from the New Jersey Council on Economic education.

### 2204.541 Managerial Economics 3 s.h. (Prerequisite: 2204.102 or permission of the instructor)

This course integrates economic theory and methodology with analytical tools for application to decision making about the allocation of scarce resources in public and private institutions. Topics covered include: decision analysis, forecasting, demand analysis, production, cost analysis, profit measurement and pricing.

## 2206 Geography

### 2206.553 Workshop in Geography 2 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)

## 4901 Liberal Arts and Sciences-General

### 4901.503 Seminar on Integrating Mathematics and Science 3 s.h.

(Prerequisite: 6 s.h. of mathematics, 6 s.h. of science at undergraduate or graduate level)

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.

### 4901.505 Workshop in Mathematics and Science 1-6 s.h.

(Prerequisite: 4901.503)

Students in this course will be involved in hands-on workshops designed to address individual interests and needs with respect to both content and pedagogy. In addition, students will study the identification and selection of appropriate instructional materials for teaching mathematics and science. Also included in the course is planning, implementing, and evaluating field trips in science and mathematics.

### 4901.507 Facilitating Change in Mathematics and Science 3 s.h.

(Prerequisite: 4901.505)

Students in this interdisciplinary course will review recent developments in the sciences and mathematics that affect the importance of specific topics. In addition, they will examine and apply the research on facilitating change in the schools.

# FACULTY

## Accounting and Finance

- BAO, DA-HSIEN (1995).....Professor  
B.S., Fu Jen Catholic University; M.B.A., Ph.D., University of Southern California
- CHUNG, SHIFEI (1997).....Associate Professor  
B.S., National Taiwan University; M.S., University of Wisconsin-Madison; Ph.D., University of Memphis; CPA
- ISIK, IHSAN (2001).....Assistant Professor  
B.S., Middle East Technical University; M.S., Texas Tech University; M.A., Ph.D., University of New Orleans
- KYJ, LARISSA (1992).....Professor  
B.A., Fordham University; M.A., Ph.D., Columbia University; CPA; CMA
- MERIC, GULSER (1987).....Professor  
B.A., Ankara University; M.S., Ph.D., Lehigh University
- PAGELL, FRANCESCA (1998).....Assistant Professor  
B.A., M.Ed., Ed.D., Temple University
- PERELES, KATHLEEN LYNN HA (2000).....Assistant Professor  
B.S., St. Bonaventure University; M.B.A., Widener University; Ph.D., Temple University
- PRITCHARD, ROBERT (1971).....Professor  
B.S., M.B.A., Drexel University; M.A., Ed.D., University of Pennsylvania
- ROMEO, GEORGE (1979).....Professor  
B.S., Rider University; M.S., Loyola College; Ph.D., Drexel University; CPA, CIA, CMA
- WEIDMAN, STEPHANIE M. (1998).....Assistant Professor  
B.S., University of Delaware; M.B.A., Duke University; Ph.D. Drexel University; CMA
- WINTHER, AUSTIN A. (1998).....Assistant Professor  
B.S., Illinois Institute of Technology; M.S.Ed., Ph.D., Southern Illinois University at Carbondale

## Art

- ADELSON, FRED (1974).....Professor  
*B.A., Univ. of Massachusetts; M.A., M.Phil., Ph.D., Columbia University*
- APPELSON, HERBERT (1967).....Professor  
*B.A., Brooklyn College; M.S., M.F.A., Univ. of Wisconsin; Ed.D., Columbia University*
- BOWMAN, SUSAN (2002).....Assistant Professor  
*B.F.A., San Francisco Art Institute; M.F.A., Rutgers University*
- CHARD, DANIEL (1968).....Professor  
*B.F.A., Univ. of South Dakota; M.A., Northern State College; Ed.D., Columbia University*
- GALLINELLI, JOHN (1969).....Professor  
*B.Ed., Keene State College; Ph.D., University of Maryland*
- GRAZIANO, JANE E. (1999).....Assistant Professor  
*B.S., University of Illinois; M.A., Rowan College; Ed.D., Teachers College, Columbia University*
- HART, JOHN PHILLIP (2001).....Assistant Professor  
*B.F.A., Lynn Academy of Fine Art; M.F.A., University of Michigan*
- MITZEN, NANCY (1994).....Assistant Professor  
*B.A., Columbia College; M.A. New York Institute of Technology; M.F.A., Temple University*

## FACULTY

- MURASHIMA, KUMIKO (1971) .....Associate Professor  
*B.F.A., Women's College of Fine Arts (Tokyo); M.F.A., Indiana University; Certificate in Textile Design, Parsons School of Design*
- OHANIAN, NANCY L. (1992) .....Professor  
*B.F.A., Layton School of Art and Design; M.F.A., Pratt Institute*
- PASSMORE, KAYE LEISSNER (2003).....Assistant Professor  
*B.A., M.A., Texas Tech University; Ed. D. Boston University*
- THOMAS, SKEFFINGTON N. (1997) .....Associate Professor  
*B.A., Lewis and Clark College; M.F.A., Southern Illinois University*
- TRAVIS, WILLIAM (1971) .....Assistant Professor  
*B.F.A., Philadelphia College of Arts; M.F.A., Temple University*
- VACCARO, DAVID E. (2003).....Assistant Professor  
*B.F.A. Edinboro State University; M.F.A. University of Tennessee*

### **Biological Sciences**

- FARISH, DONALD J. (1998) .....Professor  
*B.Sc., University of British Columbia; M.S., North Carolina State University; Ph.D., Harvard University; J.D., University of Missouri*
- GROVE, MICHAEL W. (2001) .....Assistant Professor  
*B.S., The Ohio State University; Ph.D., University of South Carolina*
- HECHT, GREGORY B. (1995) .....Assistant Professor  
*B.S., University of Rochester; M.A., Ph.D., Princeton University*
- HOLBROOK, LUKE T. (1999) .....Assistant Professor  
*B.S., Fordham University; M.S., Ph.D., University of Massachusetts*
- HOUGH, GERALD (2003) .....Assistant Professor  
*B.S., Purdue University; M.S., Ph.D., The Ohio State University*
- IFTODE, CRISTINA (2001) .....Assistant Professor  
*B.S., M.S., University of Bucharest; M.S., Ph.D., New York University-Medical Center*
- KRUFKA, ALISON (2003) .....Assistant Professor  
*B.S., College of William and Mary; Ph.D., University of Wisconsin-Madison*
- MEAGHER, RICHARD (1969).....Professor  
*B.S., M.S., Fairleigh Dickinson University; Ph.D., St. Bonaventure University*
- MOSTO, PATRICIA (1993) .....Professor  
*National Teacher Certification, Teachers College N6; Licenciada in Biology (M.S.), University of Buenos Aires; M.A. equivalent, The University of Texas at Austin; M.S., Drexel University; Ph.D., University of Buenos Aires*
- O'BRIEN, TERRY (2000) .....Assistant Professor  
*B.S., M.S., University of Iowa; Ph.D. University of California - Berkeley*
- PRIETO, ANDREW (1971).....Professor  
*B.A., Rutgers University; M.S., New Mexico State University; Ph.D., University of Missouri*
- RICHMOND, COURTNEY E. (2001) .....Assistant Professor  
*B.A., Swarthmore College; Ph.D., University of South Carolina*
- SCOTT, JOANNE (1989) .....Associate Professor  
*B.S., Bucknell University; M.A., Lehigh University; M.S., Bucknell University; Ph.D., University of Texas, Medical Branch at Galveston*
- TAHAMONT, MARIA (1993).....Professor  
*B.A., Rowan University; M.S.Ed., Southern Illinois University; Ph.D., Southern Illinois University*

## Chemistry & Biochemistry

BISHOP, KARL (2004).....	Assistant Professor
<i>B.A., Western State University; Ph.D., Syracuse University</i>	
CHA, YUN-HWAN (2003).....	Assistant Professor
<i>B.S. and M.S., Konkuk University-Seoul; Ph.D., University of Tokyo</i>	
FRAZEE, RICHARD (2003).....	Assistant Professor
<i>B.S., University of Michigan-Flint; Ph.D., University of Minnesota</i>	
LEDER, GEORGE (1972).....	Assistant Professor
<i>B.S., Brooklyn College; Ph.D., Rutgers University</i>	
NEWLAND, ROBERT (1983).....	Professor
<i>B.A., Kalamazoo College; Ph.D., Wayne State University</i>	
RAMANUJACHARY, KANDALAM V (1994).....	Professor
<i>B.S., Andhra University; M.S., Andhra University; Ph.D., Indian Institute of Technology</i>	
SCHULTZ, CHARLES (1970).....	Professor
<i>B.S., University of Michigan; M.S., Ohio State University; Ph.D., University of Michigan</i>	
YANG, CATHERINE (1995).....	Professor
<i>B.S., Zhejiang University; M.S., Ph.D., Tufts University</i>	

## College of Engineering

CHANDRUPATLA, TIRUPATHI R (1995).....	Professor
<i>B.E., Osmania University, India; M. Tech. Design and Production, Indian Institute of Technology (India); Ph.D., University of Texas at Austin</i>	
CHEN, JOHN C. (1998).....	Associate Professor
<i>B.S., University of Virginia; M.S., Ph.D., Stanford University</i>	
CHIN, STEVEN (1997).....	Associate Professor/Associate Dean
<i>B.S., Rutgers University; M.S., The John Hopkins University; Ph.D., Rutgers University</i>	
CLEARY, DOUGLAS B. (1998).....	Associate Professor
<i>B.S., M.S., Ph.D., Purdue University</i>	
CONSTANS, ERIC W. (1999).....	Assistant Professor
<i>B.S., University of Washington; M.S., Ph.D., Pennsylvania State University</i>	
DAHM, KEVIN D. (1999).....	Assistant Professor
<i>B.S., Worcester Polytechnic; Ph.D., Massachusetts Institute of Technology</i>	
DORLAND, DIANNE (2000).....	Dean/Professor
<i>B.S., M.S., South Dakota School of Mines and Technology; Ph.D., West Virginia University</i>	
DUSSEAU, RALPH A. (1995).....	Professor
<i>B.S., M.S., Ph.D., Michigan State University</i>	
EVERETT, JESS W. (1998).....	Professor
<i>B.S., M.S., Ph.D., Duke University</i>	
FARRELL, STEPHANIE (1998).....	Associate Professor
<i>B.S., University of Pennsylvania; M.S., Stevens Institute of Technology; Ph.D., New Jersey Institute of Technology</i>	
GABLER, CLAY (1998).....	Associate Professor
<i>B.S., M.E., University of Virginia; Ph.D., Princeton University</i>	
GEPHARDT, ZENAIDA OTERO (1989).....	Associate Professor
<i>B.S., Northwestern University; M.S., Ph.D., University of Delaware</i>	
HEAD, LINDA M. (1998).....	Associate Professor
<i>B.S., M.S., Ph.D., University of South Florida</i>	
HESKETH, ROBERT PAUL (1996).....	Professor
<i>B.S., University of Illinois, Champaign-Urbana; Ph.D., University of Delaware</i>	

## FACULTY

JAHAN, KAUSER (1996).....	Associate Professor <i>B.S., Engineering University, Bangladesh; M.S., University of Arkansas; Ph.D., University of Minnesota</i>
JANSSON, PETER MARK (2001).....	Associate Professor <i>B.S., Massachusetts Institute of Technology; M.S., Rowan University; Ph.D., University of Cambridge</i>
KADLOWEC, JENNIFER A. (1999).....	Assistant Professor <i>B.S., Baldwin-Wallace College; M.S., Ph.D., University of Michigan</i>
KRCHNAVEK, ROBERT R. (1998).....	Associate Professor <i>B.S., Marquette University; M.S., California Institute of Technology; Ph.D., Columbia University</i>
LEFEBVRE, BRIAN G. (2004).....	Assistant Professor <i>B.S., University of Minnesota Ph.D., University of Delaware</i>
MANDAYAM, SHREEKANTH A. (1997).....	Associate Professor <i>B.E., Bangalore University, India; M.S., Ph.D., Iowa State University</i>
MARCHESE, ANTHONY J. (1996).....	Associate Professor <i>B.S., M.S., Rensselaer Polytechnic Institute; Ph.D., Princeton University</i>
MEHTA, YUSUF A. (2001).....	Assistant Professor <i>B.S., University of Bombay, India; M.S., University of Oklahoma; Ph.D., Pennsylvania State University</i>
NEWELL, JAMES (1998).....	Associate Professor <i>B.S., Carnegie-Mellon University; M.S., Penn State University; Ph.D., Clemson University</i>
ORLINS, JOSEPH J. (1999).....	Assistant Professor <i>B.S., University of Washington; M.S., Ph.D., University of Minnesota</i>
POLIKAR, ROBI (2001).....	Assistant Professor <i>B.S., Istanbul Technical University; M.S., Ph.D., Iowa State University</i>
RAMACHANDRAN, RAVI PRAKASH (1997).....	Associate Professor <i>B.Eng., Concordia University; M.Eng., Ph.D., McGill University</i>
RIDDELL, WILLIAM (2004).....	Assistant Professor <i>B.S., University of Massachusetts-Amherst; Ph.D., Cornell University</i>
SAVELSKI, MARIANO J. (1999).....	Assistant Professor <i>B.S., University of Buenos Aires; M.S., University of Tulsa; Ph.D., University of Oklahoma</i>
SCHMALZEL, JOHN L. (1995).....	Professor <i>B.S., M.S., Ph.D., Kansas State University</i>
SLATER, C. STEWART (1995).....	Professor <i>B.S., M.S., M. Ph., Ph.D., Rutgers University</i>
SUKUMARAN, BEENA (1998).....	Associate Professor <i>B.S., Trivandrum Engineering College, India; M.S., Auburn University; Ph.D. Purdue University</i>
TANG, YING (2002).....	Assistant Professor <i>B.S., M.S., Northeastern University, China; Ph.D., New Jersey Institute of Technology</i>
VON LOCKETTE, PARIS R. (1999).....	Assistant Professor <i>B.S., Trinity University; M.S., Ph.D., University of Michigan</i>
ZHANG, HONG (2000).....	Assistant Professor <i>B.S., Tsinghua University, China; M.S., Ph.D., University of Pennsylvania</i>

### Communication Studies

ALBONE, KENNETH (1982).....	Assistant Professor <i>B.S. Lake Superior State College; M.A., Miami University; Ph.D., Bowling Green State</i>
ARNOLD, LORIN B. (1998).....	Associate Professor <i>B.A., M.A., Ph.D., Purdue University</i>
BENAVIDEZ, HARRIET (2000).....	Instructor <i>B.A., Purdue University; M.A., University of Hawaii</i>

CORISON, CYNTHIA (1984) .....	Associate Professor
<i>B.A., Lewis and Clark College; M.A., Ph.D., University of Oregon</i>	
CYPHER, JOY M. (2000) .....	Assistant Professor
<i>B.A., Loyola University, Chicago; M.A., Ph.D., Purdue University</i>	
HAYNES, JULIE A. (1998) .....	Assistant Professor
<i>B.A., University of Richmond; M.A., Texas A&amp;M University; Ph.D., Pennsylvania State University</i>	
IKPAH, MACCAMAS M. (1994) .....	Assistant Professor
<i>B.A., Eastern Washington University; M.E., Gonzaga University; Ed.D., Oklahoma State University</i>	
SCHOWALTER, DANIEL F. (2003) .....	Assistant Professor
<i>B.S., University of Wisconsin-Stevens Point; M.A., University of Arkansas; Ph.D., Indiana University</i>	
STREB, EDWARD (1979) .....	Professor
<i>B.S., M.A., Ph.D., Northwestern University</i>	

## Composition and Rhetoric

BATEMAN, LINDA (1979) .....	Instructor
<i>B.A., M.A., Rowan University</i>	
DONAHUE, MARY LEE (1983) .....	Instructor
<i>B.A., University of Tennessee; M.A., University of Connecticut</i>	
GIAMPALMI, JOSEPH J (1998) .....	Assistant Professor
<i>B.A., M.Ed., Widener University, Ed.D Temple University</i>	
HAN, AIGUO (1993) .....	Assistant Professor
<i>B.A., Xian Foreign Language University; M.A., Ph.D., Indiana University of Pennsylvania</i>	
HARVEY, ROBERTA K (1998) .....	Assistant Professor
<i>B.A., M.A., Univ. of North Dakota; Ph.D., Univ. Wisconsin-Milwaukee</i>	
HERBERG, ERIN V. (2000) .....	Assistant Professor
<i>B.S., B.A., Western Carolina University; M.A., Ph.D., Georgia State University</i>	
HUTTO, DAVID (2000) .....	Assistant Professor
<i>B.A., West Virginia University; M.A., Purdue University; M.A., Western Carolina University; Ph.D., Georgia State University</i>	
ITZKOWITZ, MARTIN (1989) .....	Associate Professor
<i>B.A., Brooklyn College; M.A., Ph.D., New York University</i>	
JOHNSON, FRANCES S. (1996) .....	Associate Professor
<i>B.A., Christopher Newport University; M.A. Old Dominion; Ph.D., Univ. of Oklahoma</i>	
MANNION, SUSAN (1980) .....	Instructor
<i>B.A., College of New Jersey; M.A. Rowan University</i>	
MARTIN, DEBBIE (2003) .....	Assistant Professor
<i>B.S., Western Michigan University; M.A., Ph.D., Texas Woman's University</i>	
MAXSON, JEFFREY N. (1994) .....	Assistant Professor
<i>B.A., Yale University; M.A., Ph.D., University of California at Berkeley</i>	
PENROD, DIANE (1976) .....	Associate Professor
<i>B.S., Medaille College; M.A., Ph.D., Syracuse University</i>	
ROWAN, JANICE (1976) .....	Professor
<i>B.A., Rutgers University; M.A., University of Michigan</i>	
SMITH, SANDRA R (2003) .....	Instructor
<i>B.A., University of Redlands; M.A., Rutgers University</i>	
STOLL, DONALD (1992) .....	Assistant Professor
<i>B.A., Valparaiso University; M.F.A., University of Texas at Austin; Ph.D., Indiana University</i>	
TWEEDIE, SANFORD M. (1994) .....	Associate Professor
<i>B.A., University of Michigan; M.A., Eastern Michigan University; Ph.D., University of Wisconsin-Milwaukee</i>	

## FACULTY

- WOOD, JOYCE (1972).....Instructor  
*B.S., Millersville University; M.A., New York University*
- ZEHNER, ROBERTA (1990).....Instructor  
*A.B., Rosemont College; M.A., Glassboro State College (Rowan)*

### Computer Science

- AMER, KHALED (1983).....Assistant Professor  
*B.S., Cairo Univ.; M.S., Concordia Univ.; M.S., Ph.D., University of Waterloo.*
- BALIGA, GANESH R. (1993).....Professor  
*B. Tech., M. Tech., Indian Institute of Technology (Bombay); M.S., Ph.D., University of Delaware*
- BERGMANN, SETH (1980).....Associate Professor  
*B.S., Rensselaer Polytechnic Institute; M.S.E., University of Pennsylvania.*
- CRICHLAW, JOEL MCLAREN (2001).....Associate Professor  
*B.A., University of Guyana, M.Sc, Ph.D., University of the West Indies*
- HARTLEY, STEPHEN J. (2000).....Associate Professor  
*B.A., Washington College, M.S., Ph.D. University of Virginia*
- HNATYSHIN, VASIL YAROSLAV (2003).....Assistant Professor  
*B.S., Widener University; M.S., Ph.D., University of Delaware*
- HRISTESCU, GABRIELA (2000).....Assistant Professor  
*B.S., Polytechnic Institute of Bucharest (Romania); M.S., Ph.D., Rutgers University.*
- KAY, JENNIFER S. (1998).....Associate Professor  
*B.A., B.S.E., University of Pennsylvania; M.S., Ph.D., Carnegie Mellon University*
- LOBO, ANDREA F. (1997).....Associate Professor  
*B.S., Universidad de Costa Rica; M.S., Ph.D., University of Delaware*
- PROVINE, DARREN F. (2000).....Instructor  
*B.S., University of Maryland-College Park, M.A., Rowan University*
- RUSU, ADRIAN S. (2003).....Assistant Professor  
*B.S., M.S., University of Craiova, Romania; M.S., Ph.D., University at Buffalo*
- SYPNIEWSKI, BERNARD PAUL (1998).....Assistant Professor  
*J.D., Seton Hall*
- TINKHAM, NANCY L. (1990).....Assistant Professor  
*B.S., Wheaton College; Ph.D., Duke University*
- WEISS, LEIGH (1968).....Associate Professor  
*B.S., M.S., Buffalo State University*
- XU, JIANNING (1988).....Associate Professor  
*B.S., Harbin Inst. of Technology (China); M.S., Ph.D., Stevens Inst. of Technology*

### Economics

- JAM, HABIB (1979).....Associate Professor  
*B.A., M.A., Texas Tech University; Ph.D., Southern Illinois University*
- MUKHOTI, BELA (1974).....Professor  
*B.A., M.A., Calcutta University, India; Ph.D., London School of Economics*
- REAVES, NATALIE D. (1998).....Associate Professor  
*B.S., Rutgers University; M.S., University of North Carolina; Ph.D., Wayne State University*

### Educational Leadership

- CAMPBELL JONES, FRANKLIN (2003).....Assistant Professor  
*B.A., University of California, Santa Cruz; M.A., Ed.D., University of San Francisco*
- CAPASSO, RONALD (1996).....Associate Professor  
*B.A., M.A., Montclair State College; Ed.D., Teachers' College, Columbia University*

## FACULTY

COAXUM, JAMES (1999).....	Assistant Professor
<i>B.S., Morehouse College, Ed.M., Harvard University; Ph.D., Vanderbilt University</i>	
DOOLITTLE, VIRGINIA (1999) .....	Assistant Professor
<i>B.A., Miami University; Ed.M., SUNY Buffalo; Ph.D., State University of NY at Buffalo</i>	
GALLIA, THOMAS - COORDINATE APPOINTMENT (1970) .....	Professor
<i>B.A., M.A., M.A., Glassboro State College (Rowan), Ed.D., Rutgers University</i>	
HESPE, DAVID C. (2001) .....	Associate Professor
<i>B.A., Rutgers University; J.D., Rutgers University School of Law</i>	
JAMES, HERMAN D. (1982) .....	Distinguished Professor
<i>B.S., Tuskegee Institute; M.A., St. John's University; Ph.D., University of Pittsburgh</i>	
JOHNSTON, CHRISTINE (1989).....	Professor
<i>B.A., M.A., University of Wisconsin; Ed.D., Rutgers University</i>	
MONAHAN, THOMAS (1984).....	Professor
<i>B.A., LeMoyne College; Ed.M., Ed.D., Rutgers University</i>	
RUSCH, EDITH A. (1997).....	Associate Professor
<i>B.A., University of Wisconsin; M.S., University of Northern Colorado; Ph.D., University of Oregon</i>	
SERNAK, KATHLEEN S. (1998) .....	Associate Professor
<i>B.A., St. Olaf College; M.A., University of South Dakota; Ph.D., Michigan State University</i>	
SISCO, BURTON R. (1998) .....	Professor
<i>B.A., M.Ed., University of Vermont; Ed.D., Syracuse University</i>	
WALPOLE, MARYBETH (2000) .....	Assistant Professor
<i>B.A., Wells College; M.A., Stanford University; Ph.D., UCLA</i>	

### **Elementary/Early Childhood Education**

BAE-SUH, SOYOUN (2003).....	Assistant Professor
<i>B.A., Ewha Women's University; M.Ed., University of Pittsburgh; Ph.D., University of Illinois</i>	
BROWNE, SUSAN (2002) .....	Assistant Professor
<i>B.A., Temple University; M.A., Cheyney University; Ed.D., University of Pennsylvania</i>	
CALLIARI, CARL (1968) .....	Professor
<i>B.A., M.A., Glassboro State College; Ed.D., Temple University</i>	
CALLIARI, SHARON G. (1998) .....	Assistant Professor
<i>B.S., Keene State College; M.Ed., University of Maryland; J.D., Rutgers University</i>	
FAISON, CHRISTY (1987).....	Professor
<i>B.S., Hampton Institute; M.A., The Ohio State University; Ed.D., Temple University</i>	
MCBEE, ROBIN H. (1996).....	Associate Professor
<i>B.A., University Without Walls/Providence; M.Ed., Lesley College; Ph.D., Virginia Commonwealth University</i>	
MOLINARI, LOUIS (1967).....	Associate Professor
<i>B.A., Wagner College; M.A., Glassboro State College; Ed.D., Temple University</i>	
MOSS, JANET G. (1992).....	Associate Professor
<i>B.S., Northwestern University; Ed.M., Harvard University; Ed.D., U.C.L.A.</i>	
PATTERSON, GARY (1971) .....	Assistant Professor
<i>B.A., Juniata College; M.A., Glassboro State College</i>	
ROBINSON, RANDALL (1965).....	Associate Professor
<i>B.S., Ohio State University; M.S., University of Pennsylvania; Ed.D., Temple University</i>	
RODRIGUEZ, YVONNE (1973) .....	Professor
<i>B.A., Rutgers University; M.A., Glassboro State College; Ed.D., Temple University</i>	
SHARP, CAROL (1987) .....	Dean/Professor
<i>B.A., Glassboro State College; M.A., William Paterson College; Ph.D., Penn State University</i>	



## FACULTY

SJOSTROM, BARBARA R. (1992).....	Professor
<i>B.A., M.S., Ph.D., State University of New York</i>	
SORRENTINO, CARMELA (1965).....	Assistant Professor
<i>B.S., West Chester State College; M.Ed., Temple University</i>	
SUDECK, MARIA R (2001).....	Assistant Professor
<i>B.S., Trenton State College; M.Ed., Ph.D., Temple University</i>	
TABER, SUSAN B. (1996).....	Associate Professor
<i>B.A., M.A., Stanford University; Ph.D., University of Delaware</i>	
WASHINGTON, JUDY (1971).....	Associate Professor
<i>B.A., Brooklyn College; M.Ed., Ed.D., Temple University</i>	
WESTCOTT, PATRICK (2003).....	Assistant Professor
<i>B.A., University of Minnesota; M.A., University of Connecticut; M.A., Fairleigh Dickinson University; Ed.D., Columbia University</i>	
WINTHER, AUSTIN A. (1998).....	Assistant Professor
<i>B.S., Illinois Institute of Technology; M.S. Ed., Ph.D., Southern Illinois University</i>	
WYLIE, GWYNNE LORRAINE (2000).....	Assistant Professor
<i>B.S., East Carolina University; M. Ed., Ed.D., Widener University</i>	

### English

CARB, NATHAN (1959).....	Professor
<i>B.A., College of William and Mary; M.A., Ph.D., University of Pennsylvania</i>	
COULOMBE, JOSEPH LOUIS (2001).....	Assistant Professor
<i>B.A., University of St. Thomas; M.A., Ph.D., University of Delaware</i>	
KILPATRICK, KATHY P. (1996).....	Assistant Professor
<i>B.A., Barnard College; M.A., Florida A&amp;M University; Ph.D., Emory University</i>	
MCCANNON, AFRODESIA (2002).....	Assistant Professor
<i>B.A., Oberlin College; M.A., Ph.D., University of California Berkeley</i>	
PARRISH, CATHERINE W. (1992).....	Assistant Professor
<i>B.A., Chatham College; M.A., Ph.D., University of Virginia</i>	
PATRICK, BARBARA C. (1991).....	Associate Professor
<i>B.A., M.A., Ph.D., University of North Carolina at Chapel Hill</i>	
TALLEY, LEE (2002).....	Assistant Professor
<i>B.A., Cornell University; M.A., Ph.D., Princeton University</i>	
VIATOR, TIMOTHY J. (1994).....	Professor
<i>B.A., M.A., University of Louisiana; Ph.D., Auburn University</i>	
VITTO, CINDY L. (1989).....	Professor
<i>B.A., Susquehanna University; M.A., Duke University; Ph.D., Rice University</i>	

### Foreign Languages and Literatures

CIAVARELLI, MARIA ELISA (1973).....	Associate Professor
<i>B.A., M.A., Ph.D., University of Pennsylvania</i>	
KAPLIS-HOHWALD, LAURIE A. (1994).....	Associate Professor
<i>B.A., Queens College; M.A., Ph.D., University of Pennsylvania</i>	
MADERO, ROBERTO R. (2001).....	Assistant Professor
<i>Licence d'histoire, Paris VII; M.A., Ph.D., Princeton University</i>	
MARTINEZ-YANES, FRANCISCO (1966).....	Professor
<i>M.A., University of Rome, Italy; Diplôme, Alliance Française, Paris, France; Ph.D., University of Pennsylvania</i>	

## FACULTY

- ROBB, ANTHONY J. (2001) .....Assistant Professor  
*B.A., Glassboro State College; M.A., Villanova University; Ph.D., Temple University*
- SMITH, EDWARD C. (1992) .....Associate Professor  
*B.A., Rutgers University; M.Phil., Ph.D., New York University*
- SPENCER, SONIA B. (1990) .....Assistant Professor  
*B.A., Hunter College; M.A., Pennsylvania State University; Ph.D., Duke University*

### Geography and Anthropology

- BEHM, EDWARD (1971) .....Assistant Professor  
*B.A., M.A., Bowling Green State University*
- HASSE, JOHN E. (2001) .....Assistant Professor  
*B.A., Rowan University; M.S., Ph.D., Rutgers University*
- KASSERMAN, DAVID (1973) .....Associate Professor  
*B.A., Indiana University; M.A., Ph.D., University of Pennsylvania*
- LEMAIRE, DENYSE (1998) .....Associate Professor  
*M.A., Ph.D., Universite Libre de Bruxelles*
- MARKOWITZ, DIANE (1993) .....Associate Professor  
*B.A., Tufts University; D.M.D., Tufts University School of Dental Medicine; Ph.D., University of Pennsylvania*
- ROSADO, MARIA (1993) .....Associate Professor  
*B.A., M.A., Ph.D., Rutgers University*
- SCOTT, RICHARD (1972) .....Professor  
*B.A., University of Cincinnati; M.A., Ph.D., Syracuse University*
- STANSFIELD JR., CHARLES A (1966) .....Professor  
*B.S., West Chester University; M.S., Pennsylvania State University; Ph.D., University of Pittsburgh*
- ZIMOLZAK, CHESTER (1974) .....Associate Professor  
*B.A., Pennsylvania State University; M.A., University of Wisconsin*

### Health and Exercise Science

- BIREN, GREGORY BLAKE (2000) .....Assistant Professor  
*B.A., Shippensburg; M.Ed.D., Temple University; Ph.D., Temple University*
- BRADLEY, FRED (1969) .....Assistant Professor  
*B.A., B.S., M.A., Appalachian State University; D.A., Middle Tennessee State University*
- BUHRER, NANCY (1973) .....Assistant Professor  
*B.A., College of William and Mary; M.S., University of North Carolina; Ed.D., Temple University*
- BURD, JAMES (1969) .....Associate Professor  
*B.S., M.Ed., University of Buffalo*
- CHALOUPKA, EDWARD (1972) .....Professor  
*B.A., M.S., Queens College; Ph.D., Ohio State University, Post-Bacc. P.T., Hahnemann Medical University*
- CONE, STEPHEN L. (1999) .....Professor  
*B.A., Jacksonville University; M.A., Appalachian State University; Ph.D., Texas A & M University*
- FOPEANO, RICHARD J (1992) .....Associate Professor  
*B.S.Ed., SUNY, College at Cortland; M.A., Ball State University; Ph.D., Temple University*
- MANN, DOUGLAS P. (1998) .....Assistant Professor  
*B.A., University of Miami; M.S., Old Dominion University; DPE., Springfield College*
- PAGELL, FRANCESCA LOUISE (1998) .....Assistant Professor  
*B.A., M.Ed., Ed.D., Temple University*

## FACULTY

- PINCKNEY, MELVIN (1986) .....Instructor/Academic Coordinator  
*B.A., Glassboro State College; M.S., N.D., A & T State University*
- PUTMAN, MARY LEE (1971) .....Associate Professor  
*B.S., SUNY College at Cortland; M.A., University of Maryland; Ph.D., Temple University*
- RATTIGAN, PETER J. (2000) .....Assistant Professor  
*B.Ed., Avery Hill College; M.A., University of Minnesota; Ph.D., University of Minnesota*
- SPENCER, LESLIE S. (1995) .....Associate Professor  
*B.B.A., James Madison University; M.S., Springfield College; Ph.D., Temple University*
- STERNER, ROBERT LANCE (2001).....Assistant Professor  
*B.S., East Stroudsburg University; M.S., University of Pittsburg; Ph.D., University of Toledo*
- WHEDON, CHUCK (1986).....Instructor/Athletic Trainer  
*B.S., Slippery Rock; M.S., University of Kansas*
- WILLIS, SHARI (2003).....Assistant Professor  
*B.S., Northeast Missouri State; Ph.D., University of Utah*

### History

- APPLEBAUM, DAVID (1973).....Professor  
*B.A., Brooklyn College; M.A., Ph.D., University of Wisconsin-Madison*
- BLAKE, CORINNE L. (1992).....Associate Professor  
*A.B., U. of Cal-Berkeley; Ph.D., Princeton University*
- CARRIGAN, WILLIAM D. (1999).....Assistant Professor  
*B.A., University of Texas at Austin; M.A., Ph.D., Emory University*
- HEINZEN, JAMES W. (2000).....Assistant Professor  
*B.A., Trinity College; Ph.D., University of Pennsylvania*
- KLAPPER, MELISSA R. (2001) .....Assistant Professor  
*B.A., Goucher College; Ph.D., Rutgers University*
- KRESS, LEE (1973) .....Associate Professor  
*B.A., Johns Hopkins University; M.A., Ph.D., Columbia University*
- LINDMAN, JANET M. (1994) .....Associate Professor  
*B.A., St. Olaf College; M.A., Ph.D., University of Minnesota*
- MORSCHAUSER, SCOTT (2003).....Assistant Professor  
*B.A., Gettesburg College; Ph.D., Johns Hopkins University*
- WANG, Q. EDWARD (1992).....Professor  
*B.A., M.A., East China Normal University; Ph.D., Syracuse University*
- WILTENBURG, JOY DEBORAH (1991) .....Associate Professor  
*B.A., M.A., University of Rochester; Ph.D., University of Virginia*

### Journalism and Creative Writing

- BLOCK, RONALD (2003) .....Assistant Professor  
*B.A., University of Nebraska; M.A., M.S., Syracuse University;*
- CHANG, JULIA (1996).....Associate Professor  
*B.A., Stonehill College; M.S.J., Columbia University; M.A., Temple University*
- CUDDY, CLAUDIA (1999) .....Assistant Professor  
*B.A., M.A., M.A., Glassboro State College*
- HAUSMAN, CARL D. (1997) .....Professor  
*B.A., University of State of New York; M.A., Antioch University; Ph.D., Union Institute*
- QUIGLEY, KATHRYN SARAH (2002) .....Assistant Professor  
*B.A., Villanova University; M.A., University of Maryland*

## Law and Justice Studies

- DAVEY, JOSEPH P. (1998) ..... Associate Professor  
*B.A., Seton Hall University; J.D., St. John's Law School; M.A., New School for Social Research; Ph.D., City University of New York*
- DAVIS, DONALD (1969) ..... Assistant Professor  
*B.S., Allen University; M.Ed., Temple University; Ed.D., Rutgers University*
- DOUGLAS, HERBERT (1980) ..... Professor  
*B.S., Duquesne; M.S., Glassboro State College; Ph.D., University of Toledo*
- FOGLIA, WANDA D. (1994) ..... Professor  
*B.A., Rutgers University; J.D., Ph.D., University of Pennsylvania*
- JIAO, ALLAN (1995) ..... Professor  
*B.A., Changsha Railway Institute; M.A., Lewis and Clark College; Ph.D., Rutgers University*
- LINE, CYNTHIA L. (1999) ..... Assistant Professor  
*B.A., M.A., Ohio University; Ph.D., The Ohio State University*
- VIGORITA, MICHAEL S. (1998) ..... Associate Professor  
*B.S., M.A., Ph.D., Rutgers University*
- WEISS, MICHAEL S. (2001) ..... Assistant Professor  
*BA, Brooklyn College, J.D., Brooklyn Law School, Ph.D. (2002) State University of New York, Albany*
- YELDELL, STANLEY (1974) ..... Assistant Professor  
*B.A., Bowie State University; J.D., Howard University School of Law*

## Management and Management Information Systems

- BANUTU-GOMEZ, MICHAEL B. (2000) ..... Assistant Professor  
*B.A., Eastern Connecticut State University; M.S.W., Boston University; Ph.D., Case Western Reserve University*
- BYRD, KIMBLE (1984) ..... Professor  
*A.B., Villanova Univ.; J.D., University of Pennsylvania*
- DAVIS, DANIEL (1983) ..... Assistant Professor  
*B.S., Glassboro State College; M.B.A., Drexel University*
- EZE, EZEGOZIE (1999) ..... Assistant Professor  
*B.S., Rown University; M.B.A., Indiana University of Pennsylvania; Ph.D., Walden University*
- FLEMING, ROBERT S. (1989) ..... Professor  
*B.S., Philadelphia College of Textiles & Science; M.B.A., Temple University; M.S., Temple University; M.A.R., Eastern Baptist Theological Seminary; Ed.D., Temple University; M.G.A., University of Pennsylvania; M.S., Temple University; CEBS; SPHR; CDP; CNE; ECNE; MCNE*
- HAMILTON, DIANE (1983) ..... Professor  
*B.S., Glassboro State College; M.B.A., Drexel University; Ph.D., Temple University*
- LEE, JOOH (1988) ..... Professor  
*B.B.A., Kook-Min University; M.S., Colorado State University; Ph.D., University of Mississippi*
- MCFARLAND, DANIEL J. (2002) ..... Associate Professor  
*B.S., M.B.A., Ph.D., Drexel University*
- MIRCHANDANI, DILIP (1994) ..... Professor  
*B.S., M.B.A., University of Bombay, India; Ph.D., Temple University*
- PERELES, KATHLEEN LYNN HA (2000) ..... Assistant Professor  
*B.S., Bonaventure University; M.B.A., Widener University; Ph.D., Temple University*
- ROSS, LINDA (1974) ..... Professor  
*B.A., Lycoming College; M.A., University of Toledo; Ph.D., Wayne State University*

## FACULTY

- RUDIN, JOEL P. (1999) .....Associate Professor  
*B.A.Sc., University of Toronto; M.S., Ph.D., Cornell University*
- SCHOEN, EDWARD J. (1999) .....Dean/Professor  
*B.S., LaSalle University; J.D., Georgetown University*
- WEAVER, KENNETH M. (2002).....Professor  
*B.S., Ph.D., Louisiana State University*
- ZHU, FAYE X. (2000) .....Associate Professor  
*B.S., Shanghai Institute & Mechanical Engineering; M.B.A., Ashland University; D.B.A., Cleveland State University*

### Marketing

- GUNER, BERRIN D. (1997).....Associate Professor  
*B.A., Marmara University; M.B.A., St. Joseph's University; Ph.D., Drexel University*
- HABTE-GIORGIS, BERHE (1988) .....Associate Professor  
*B.B.A., Haile Selassie University; M.S., Loyola University; D.B.A., Louisiana Tech University*
- LEWIS, PHILLIP A. (1993) .....Assistant Professor  
*B.A., M.B.A., Wright State University; M.A., Ph.D., The Ohio State University*
- LUCIUS, HAROLD (1986).....Professor  
*B.A., M.B.A., Inter-American University; Ph.D., University of Washington*
- PARKER, RICHARD (1990).....Professor  
*B.A., Queens College; M.B.A., Rutgers; Ph.D., City University of New York*
- PONTES, MANUEL (2000).....Associate Professor  
*B.Sc., University of Bombay; M.Sc., Indian Institute of Technology; Ph.D., University of California; Ph.D., University of Florida*

### Mathematics

- ABAY, ABERA (1993).....Associate Professor  
*B.Sc., M.Sc., Addis Ababa University, Ethiopia; Ph.D., Temple University*
- CALDWELL, JANET (1983).....Professor  
*B.A., Rice University; M.A., University of Pennsylvania; Ph.D., University of Pennsylvania*
- CZOCHOR, RONALD (1983).....Professor  
*B.S., Union College; M. of B.M.A.; Ph.D., North Carolina State University*
- HASSEN, ABDULKADIR (1996).....Associate Professor  
*B.Sc., M. Sc., Addis Ababa University, Ethiopia; Ph.D., Temple University*
- HERMAN, MARLENA (2002) .....Assistant Professor  
*B.S., Indiana University of Pennsylvania; M.Ed., Pennsylvania State University; Ph.D. Ohio State University*
- HEINZ, KAREN RUTH (2003) .....Assistant Professor  
*B.S., Penn State; M.A., Ohio State; Ph.D., Penn State*
- HOWE, LARRY (1970).....Assistant Professor  
*B.A., University of Delaware*
- ILICASU, FATMA OLCAY (2001).....Assistant Professor  
*B.S., Middle East Technical University; M.S., University of Wisconsin-Milwaukee; Ph.D., University of Wisconsin -Milwaukee*
- ITZKOWITZ, GARY (1972).....Professor  
*B.S., City College of New York; M.A., Ph.D., University of California.*
- LACKE, CHRISTOPHER J. (1998) .....Assistant Professor  
*B.A., Bowdoin; M.S., University of Southern Maine and North Carolina State University; Ph.D., North Carolina State University*

LAUMAKIS, PAUL J. (1998) .....	Associate Professor
<i>B.S., Drexel University; M.A., Villanova University; Ph.D., Lehigh University</i>	
LI, MING-SUN (1997) .....	Associate Professor
<i>M.A., Ph.D., University of California at Santa Barbara</i>	
MILOU, ERIC (1997) .....	Associate Professor
<i>B.A., Franklin &amp; Marshall College; M.A., West Chester University; Ed.D., Temple University</i>	
NGUYEN, HIEU DUC (1996) .....	Associate Professor
<i>B of Math, University of Minneapolis; Ph.D., University of California at Berkeley</i>	
OSLER, THOMAS (1972) .....	Professor
<i>B.S., Drexel University; M.S., Ph.D., New York University</i>	
SCHIFFMAN, JAY L. (1993) .....	Instructor
<i>B.A., M.A., St. John's University</i>	
SIMONS, CHRISTOPHER SMYTH (2000) .....	Assistant Professor
<i>B.Sc., McGill University; M.A., Ph.D., Princeton University</i>	
WEINSTOCK, EVELYN (1987) .....	Assistant Professor
<i>B.S., M.S., University of Delaware; Ph.D., Drexel University</i>	
WHITTINGHILL, DEXTER C. (1996) .....	Associate Professor
<i>B.A., Middlebury College; M.S., University of Wisconsin-Milwaukee; M.S., Ph.D., Purdue University</i>	
WRIGHT, MARCUS (1986) .....	Assistant Professor
<i>A.B., Harvard University; M.S., Ph.D., Stanford University</i>	
ZENG, XIAOMING (1985) .....	Professor
<i>B.M., Northeast Ind. College (China); M.M., Academy of Science (China); Doctor of Science, Washington University</i>	

## Music

APPLEBY-WINEBERG, BRYAN K (2001) .....	Assistant Professor
<i>B.M., Oberlin College; M.M., Cleveland Institute; D.M.A., Rutgers University</i>	
DIBLASIO, DENIS (1994) .....	Associate Professor
<i>B.A., Glassboro State College; M.M., University of Miami</i>	
GEPHARDT, DONALD L. (1990) .....	Dean/Professor
<i>B.M.E., Drake University; B.S., M.S., The Juilliard School; Ed.D., Washington University</i>	
GRANITE, BONITA (1972) .....	Associate Professor
<i>B.M.E., M.M.E., Indiana University</i>	
GREENSPAN, BERTRAM (1961) .....	Professor
<i>B.M., American Conservatory of Music; M.M., D.M., Indiana University</i>	
KUHLMAN, KRISTYN L. (2001) .....	Assistant Professor
<i>B.S., Messiah College; M.M., Kent State University; Ph.D., University of North Carolina at Greensboro</i>	
LEVINOWITZ, LILI (1989) .....	Professor
<i>B.M., Westminster Choir College; M.M., Ph.D., Temple University</i>	
MAPP, DOUGLAS (2001) .....	Assistant Professor
<i>B.M. Philadelphia College of the Performing Arts; M.M., Temple University</i>	
MAYES, JOSEPH (1993) .....	Associate Professor
<i>B.A., Edison College; M.M., Shenendoah University</i>	
OLIVER, HAROLD (1979) .....	Professor
<i>B.M., Peabody Conservatory; M.M., Yale Univ.; Ph.D., Princeton University</i>	
PASTIN, JOHN R. (1998) .....	Associate Professor
<i>B.S., University of the State of New York; M.M., Northwestern University</i>	
PLANT, LOURIN (1993) .....	Assistant Professor
<i>B.M.E., Wittenberg University; M.M., D.M.A., College Conservatory of Music, University of Cincinnati</i>	

## FACULTY

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SCARPA, SAL (1994).....	Assistant Professor <i>B.A., Glassboro State College; M.M., Eastman School of Music</i>
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- ABBOTT, JAMES R. (1990) .....Associate Professor  
*B.A., University of San Diego; M.A., Ph.D., University of Pennsylvania*
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# DIRECTIONS TO THE UNIVERSITY

Glassboro is located in South Jersey, 18 miles southeast of Philadelphia. It can easily be reached from the N.J. Turnpike, the Atlantic City Expressway, or any of the Delaware River bridges.

If you drive from the north or the south, take the N.J. Turnpike to Exit 2 and follow Rt. 322 East, which runs through the campus.

From Philadelphia, take the Walt Whitman or Benjamin Franklin Bridge to 676 South toward Atlantic City. Shortly after 676 becomes Rt. 42 South, exit to the right onto Rt. 55 South. Take Rt. 55 South to the Glassboro-Mullica Hill exit (50A) and exit onto Rt. 322 East, which passes through the campus.

From central N.J., take Rt. 70 West to Rt. 295 South. Follow Rt. 295 to Rt. 42 South (Atlantic City). Exit Rt. 42 South onto Rt. 55 South and follow directions above.

From coastal points, take the Garden State Parkway to the Atlantic City Expressway. Take the Expressway to the Williamstown exit. Turn left after exiting and follow Rt. 322 West to the campus.

From Delaware, take the Delaware Memorial Bridge to the N.J. Turnpike. Take Exit 2 and follow Rt. 322 East to the campus. From Northern Wilmington, you can take the Commodore Barry Bridge which feeds onto Rt. 322 East, which runs through the campus.

# INDEX

<b>A</b>	
Academic and Student Support	7
Academic Dismissal	15
Academic Honesty	15
Academic Policies and Requirements	15
Academic Warning	15
Accounting Courses	79
Admission	11
Audit Policy	16
<b>C</b>	
Campbell Library	9
Class Attendance	16
College of Business	25
M.B.A., Master of	
Business Administration	25
M.S., Accounting	27
Specializations	26
College of Communication	29
M.A., Public Relations	29, 30
M.A., Writing	32
College of Education	34
Certificates of Graduate Study	64
Ed.D., Educational Leadership	61
Ed.S. Educational Services:	
School Psychologist Certification	52
Graduate Certification Programs	67
M.A., Educational Technology	36
M.A., Elementary School Teaching	35
M.A., Environmental Education and	
Conservation	37
M.A., Higher Education	38
M.A., Learning Disabilities	40
Learning Disabilities Teacher/Consultant	
Certification	42
M.A., Music Education	60
M.A., Reading Education	44
M.A., School & Public Librarianship	49
M.A., School Administration	46, 48
M.A., School Psychology	51
M.A., Special Education	53
M.A., Student Personnel Services	55
M.A., Subject Matter Teaching	58
M.A., Supervision & Curriculum	
Development	56
M.S., Teaching	42
M.S.T. in Collaborative Teaching (Co-Teach)	44
School Business Administration	
Certification	49
Science	61
Supervisor's Certification	57
College of Engineering	68
M.S., Engineering	68
College of Fine and Performing Arts	71
Certificate of Graduate Study	
in Theatre Practice	72
M.A., Theatre	71
Master of Music	72
College of Liberal Arts and Sciences	74
Certificate of Advanced Graduate	
Study in Mental Health Counseling	76
M.A., Mathematics	74
M.A., Mental Health Counseling	
and Applied Psychology	75
Substance Awareness Coordinator	
Certification	76
Course Descriptions	78
Art	126, 132
Art History	126
Biology	78, 140
Business	79, 81
Chemical Engineering	118
Chemistry	139
Civil Engineering Courses	121
Communication	82, 88
Computer Programming	89
Computer Science	89
Curriculum and Instruction	108
Dramatic Arts	131
Economics	145
Educational Psychology	98
Education of Students with Cognitive	
Impairments	95
Educational Administration	101
Electrical and Computer	
Engineering	124
Elementary Education	92
Engineering, General	118
English as a Second Language	
and Bilingual Education	115
Environmental Education and	
Conservation	116
Finance Courses	80

## INDEX

Hardware and Computer Organization Courses . . . . .	90
Health Education . . . . .	115
Higher Education . . . . .	94
Journalism Courses . . . . .	87
Leadership Studies Courses . . . . .	106
Learning Disabilities . . . . .	96
Liberal Arts and Sciences . . . . .	145
Marketing Courses . . . . .	82
Mathematics, General . . . . .	135
Mechanical Engineering Courses . . . . .	124
MIS Information Processing for Managers Courses . . . . .	89
Music - Liberal Arts Program . . . . .	130
Music - Performing, Composition, Theory . . . . .	126
Music Education . . . . .	111
Music History and Appreciation . . . . .	130
Operations Research . . . . .	82
Paleontology . . . . .	140
Physical Sciences . . . . .	137
Physics . . . . .	137
Psychology . . . . .	140, 142, 143, 144
Reading Education . . . . .	109
School and Public Librarianship . . . . .	133
School Public Relations . . . . .	118
Science Education . . . . .	114
Social Psychology . . . . .	142
Special Education . . . . .	95
Student Personnel Services . . . . .	100
Theory Methodology and Applications Courses . . . . .	91
Credit by Examination . . . . .	19
 <b>D</b>	
Directions to the University . . . . .	165
 <b>E</b>	
Educational Opportunity Fund Graduate Grant (EOF) . . . . .	24
 <b>F</b>	
Faculty . . . . .	146
Federal College Work Study (FWS) . . . . .	24
Financial Aid Programs . . . . .	24
Full-Time Status . . . . .	15
 <b>G</b>	
Grading System . . . . .	15
Graduate Assistantships . . . . .	23
Graduate Programs . . . . .	4
 <b>H</b>	
Honors Admission . . . . .	11
 <b>I</b>	
Identification Cards . . . . .	22
Immunization and Medical Records . . . . .	14
Information Resources . . . . .	10
Institutional Work Study Program (IWS) . . . . .	24
Insurance . . . . .	23
 <b>N</b>	
New Jersey CLASS Loan Program . . . . .	24
 <b>O</b>	
Organization of the University . . . . .	8
 <b>P</b>	
Parking . . . . .	23
Payment Plans . . . . .	14
Photography Courses . . . . .	133
Program Transfers . . . . .	13
Provost, Office of . . . . .	9
 <b>R</b>	
Registration Procedures . . . . .	14
Repeating a Course . . . . .	17
Requirements for a Graduate Degree . . . . .	17
Resident and Recreation Center Assistantships . . . . .	23
Returned Check Charge . . . . .	23
Rowan University at Camden . . . . .	10
 <b>S</b>	
Scholarship Programs . . . . .	24
Alumni . . . . .	24
MST . . . . .	24
Seminar and Research . . . . .	19
Senior Privileges . . . . .	17
Stafford Loans . . . . .	24
 <b>T</b>	
Teacher Certification Programs . . . . .	14
Tuition and Fees . . . . .	21
 <b>V</b>	
Veterans' Benefits . . . . .	24
 <b>W</b>	
Withdrawal System . . . . .	16

## NOTES