University Senate Agenda
April 12, 2019, 2:00-3:15 in Bozorth Auditorium

2:00-2:25

1. Approval of agenda
2. Introduction of visitors
3. Approval of minutes from March meeting
4. President's report
    a. Update on Middle States Site Visit
    b. Update on athletics
    c. Update on evaluation software
    d. Update on curriculum software
    e. Update on replacement Macs
    f. Tips on avoiding phishing scams (separate file)
    g. Committee Chairs: End of year reports are due to Noranne Browne (browne@rowan.edu). Please use MS Word format
    h. Reminder: Instructors are eligible for Sabbatical
    i. Faculty handbook: what needs to be here?
    https://sites.rowan.edu/academicaffairs/facultycenter/resources/quicklinks.html

2:15-2:55

5. First reading: Proposed changes to Rowan Core (Nathan Bauer, separate file)
6. Proposed Global policies: Time Limit Extension and Graduate Academic Leave of Absence (Page 3)

2:55-3:15

7. Old and New business
8. Adjournment

2:00-2:15

1. Approval of agenda-Motioned, Seconded, Approved

2. Introduction of visitors-Mike DiSanto, Jim, Holaska, Adam Currie (Bio Med Sciences)

3. Approval of minutes from February meeting-Motioned, Approved

4. President's report

a. Update on changes to administration
July 1, 2019 Lowman and Shealey will no longer be Deans (although Shealey may stay on for a bit). Departments should update their T& R and Promotion criteria and get them signed off on ASAP.

Untenured faculty should read prior letters to make sure expectations are clear

b. Update on athletics: Cheryl Levick will review situation:
https://www.sportsbusinessdaily.com/Conferences-Events/2017/IAF/Speakers/Cheryl-Levick.aspx

Chronicle of Higher Education is writing an article about this issue and Rowan University's response. Title IX Investigations are ongoing

c. Deans making inappropriate decisions
Issues with edicts, such as not emailing the dean. Questionable adjusted load awarding.

Q-Do we have a process in place for a curriculum proposal to go through, if the Dean refuses to sign?
A-Not right now. We can talk about it. If you have a Dean who will not sign, let Bill know.

d. Update on curriculum software
It is now live. It will be available to everyone in the Fall. Need VPN or Citrix to connect off campus.

e. Update on replacement Macs
Provost agreed to fund all Macs this year. However, there is a huge backlog of orders for computers.

f. Update on Tech Park air quality (separate file)

People working on the first floor started having symptoms. Air Quality report came back clean with low/no levels of irritants.

g. Agora/greenhouse between Campbell and Chamberlain
Will link Library and Student Center. Two architectural firms presented ideas/plans. Nothing has been decided yet.
Comment: Concerned that we could spend this money towards something that goes towards the academic mission.
Comment: We could use that money to assist students with tuition and costs.

h. New registrar: Linda Drexel

i. Gartner Group presentation (separate file)
Presentation on the future of higher education. Lacked emphasis on faculty and how they are impacted.
Q-What is the broader context of why this group was giving this presentation?
A-To discuss the future of higher education. Mira seems to have done some work with this firm before.

Comment: Some of our Deans are on the Degrees of the Future Taskforce.

j. Proposal for standardized start dates for Rowan Global courses (page 2)

Want to change Rowan Global online and hybrid courses to start at the same time as regular semester.
Comment: Lots of withdraws because students didn't realize the course didn't start and didn't complete work.
Comment: It also has implications in Spring term, making it easier to offer Winter session courses and have more time for research.
Q-Why are these courses 8 week long exactly?
A-Some courses are 7 weeks long. Programmatic decision.

k. Title IX Student Summit (page 3)

l. IRT auditing all Rowan-issued computers
If you have ever had a Rowan issued machine, they want it back. They will check your current machine as well to make sure you have the most recent operating system and security.
Comment-They have never notified us that Macs were eligible for updates.
Q-How far back do they want them back from?
A-I don't know.
Q-When will this start?
A-April.

m. Faculty Center

There will be 2 Provost Fellows in the Faculty Center, one for Diversity and one for Faculty Center Operations.

2:15-2:55

Open period:
5. Update on Middle States Self-Study (Roberta Harvey)

Site Visit Preview 3/10/2019 through 3/13/2019 Ten year review
Institutional Accreditation (includes Medical Schools)
Inclusive Agile Responsive
Self-Study timeline (see PowerPoint)
Started October 2016, culminates in site visit this March 2019
Oral Exit Report to University Community March 13, 2019 at Noon.
Visiting Evaluation Team Chair-Dr. Michael Driscoll, Indiana University of Pennsylvania
Full Self-Study Report is now available to review.

Q-When will you have the full schedule for the visit?
A-Hopefully by Monday

Q-Where would Librarians go? With Faculty or Staff? We would like to consider ourselves faculty.
A-We will bring you in with the faculty.

6. Update on Office of Career Advancement (Bob Bullard)
Annual Report update.
Please remember our serves don't stop. We serve any student or alumni.
264% growth in student contact over the past year. 2,681 students attended an OCA presentation. 3, 739 number of opportunities on Prof Jobs during the 2017-2018 academic year. 12 OCA staff members (tripled from Fall 2016). Rolling out College specific career events.
First Destination Survey-this year we are aggregating data from colleges and IRT to determine where our students are and if they need help looking for jobs.
OCA incentivized students for completing the First Destination Information.
Currently at 81% placement with half of the results in and analyzed now.

Career Planning & Development-over 700 students took class in 2017-2018 academic year.
Job listings are up 27% so far this year of ProfJobs.
 $300,000 gift to OCA. $70,000 to start a Autism PATH program and career counselor position for those students.

Q-How do we get the longitude data on placement?
A- Email Bob. We are currently developing Dashboards for this information.

Comment-Your staff has been in my classes and tailor all information to the class. Thank You.

2:55-3:15
7. Issues with Department Heads (Mike DiSanto)
After new faculty finally were tenured. A Chair Election was held and Mike DiSanto won in January 2017. Was never made department chair. The Medical School then advertised for a search for a Department Chair. Grievance was filed in May 2018 about the matter. Dean suggested appointing someone else. Asked Dean to withdraw ad for Chair, administration refused.   This led to unfair labor practice issue. Department worked for two years without a Head or Chair.   Dr. DiSanto completed chair duties and has not been compensated.

8. Second reading: Ad hoc committee on Sustainability (page 4)-Motioned, Approved

9. Resolution on county college partners offering four year degrees (page 5)
Motion to vote on this today. 1-Opposed, Approved.
Friendly amendment to alter parts of the resolution.
Friendly Amendment: Title Change to Resolution on County College Partners-**Motioned, Seconded, Moved**

Approving Resolution
3 Opposed, Approved.

Comment-Some concerns with this resolution. I don't think we know enough today to vote on this. It was stated that this is about our partners, but resolution says Resolution on County Colleges. Nationally, community colleges have started awarding bachelor degrees in many states. They often offer Applied Bachelor's Degrees.

Q-Can our partners produce their own bachelor's degrees as of right now?
A-According, to the President, yes they can.
Friendly Amendment-remove last sentence of second paragraph

Q-Can we remove the Rowan name from these institutions?
A-Yes, according to the administration.

Q-Should legislation be passed that community colleges, will that supersede this resolution?
A-Not sure but would certainly impact.

Comment-NJ Council of County Colleges is about to release their vision for the next 10 years, that includes 4-year degree.

Q-What happens to the 3+1 and 2+2 programs?
A-Not sure

Q-How many votes are there in the NJ President's Council?
A-Not Sure.

Comment- It may start with a Glassblowing degree, but may go to offering other degrees we offer.

Q-Has there been push at the county colleges to offer a 3 year degree?
A-Yes, they are trying to offer accelerated programs. They are looking at applied fields in majors we do not offer.
A-The resolution is not about county colleges, but it is about RCGC and RCBC or have Rowan in the name. There is already brand confusion between these RC's.
Q-Could this anger our Rowan College Partners?
A-Yes, it could.

Comment-The title of the resolution is awfully broad. Would like the title to be reworded.
Friendly Amendment: Title Change to Resolution on County College Partners.

 Comment- At the state level, there is a move to offer 2-year degrees from a 4-year college.

10. Old and New Business

11. **Adjournment -4:06**

Subject: *Academic Affairs*

Policy No:

Applies: Graduate Programs

Issuing Authority: *Provost / Senior Vice President for Academic Affairs/Vice President of Rowan Global Learning & Partnerships*

Responsible Officers: *Deans*

Adopted:

Last Revision: *2.5.2019*

Last Reviewed: *2.5.2019*

I. PURPOSE

The purpose of this policy is to establish policy, procedures, and guidelines for the management of University graduate program attendance records.

II. ACCOUNTABILITY

Under direction of the Provost/Senior Vice President for Academic Affairs/Vice President of Rowan Global Learning & Partnerships, all Deans, Department Chairs, and Department Heads shall implement this policy. All faculty shall ensure compliance with the policy.

III. APPLICABILITY

This policy applies to students and faculty with respect to graduate-level programs and courses, including degree programs, certificates of advanced graduate study, certificates of graduate study, and post-baccalaureate certificate programs. Students who are currently enrolled but do not intend to register for classes in an upcoming semester due to extenuating personal reasons may apply for an Academic Leave of Absence. Additional policies are independently developed and implemented by the Rowan University School of Osteopathic Medicine, the Graduate School of Biomedical Sciences, and the Cooper Medical School of Rowan University.

IV. Policy

Academic Leave of Absence

The Office of the respective Academic Dean may grant a temporary leave of absence to students who demonstrate sufficient cause to justify such a leave. Students who feel their circumstances justify a leave should contact the appropriate graduate program director or department chair to discuss the possibility of a leave of absence, the consequences of interrupting their program of study and the conditions that will need to be satisfied to return to the university. The Office of the Academic Dean is responsible for granting these leaves and works in collaboration with the Office of the Graduate Studies when determining if and when a student on leave returns to the university. Whenever possible, students should discuss with their advisers and/or graduate program directors the impact a leave of absence would have on their ability to eventually complete their program of study. In some programs, it may be difficult for a student to complete their program of study when they do not continue with their cohort.

1. Students in good academic standing, who must interrupt their studies temporarily, should apply for a leave of absence in writing to the Office of respective Academic Dean through their graduate program director or department chair. A graduate student may be granted a leave or (leaves) of absence for a period not to exceed a total of 12 calendar months and with appropriate documentation.
2. Students cannot apply for a leave of absence for a semester in which they are currently registered for classes. Leaves of absence can only be approved for semesters that have not yet begun.
3. Leaves of absence extend time to degree completion including any deadlines and other degree requirements. During a leave of absence, the student will be placed on "Inactive Status" during which time the student will not receive registration reminders from the Rowan University Division of Global Learning & Partnerships.
4. Written notification of the student's intent to return must be received by the respective Office of the Academic Dean through their graduate program directors or department chair at least one month prior to the expiration of the leave to ensure proper plan of study for re-entry into the program. Registration is not required and funding support may be affected by the leave.
5. Upon expiration of the Leave of Absence, the student will resume "Active Status" and will receive registration reminders and all related active registrant communication from Rowan Global.
6. Students NOT returning from leave of absence within the approved date may be required to reapply to the Rowan University Division of Global Learning & Partnerships Admissions Office and undergo a new admissions process.
7. Students returning from leave of absence and who apply for readmission must demonstrate that their knowledge is current and consistent with those standards that are in effect in the graduate program at the time. The program will determine what constitutes an acceptable level of current knowledge on a case-by-case basis and must include this determination in its recommendation for readmission.
8. International students holding a student visa who wish to temporarily leave the United States under this policy must obtain permission of the International Center Office and submit the required documentation 30 days prior to their travel.

Title: *Graduate Program Time to Degree Completion and Extension of Time to Degree Completion*

Subject: *Academic Affairs*

Policy No:

Applies: Graduate Programs

Issuing Authority: *Provost / Senior Vice President for Academic Affairs/Vice President of Rowan Global Learning & Partnerships*

Responsible Officers: *Deans*

Adopted:

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III. APPLICABILITY

This policy applies to students and faculty with respect to time limits for graduate-level programs and courses, including degree programs, certificates of advanced graduate study, certificates of graduate study, and post-baccalaureate certificate programs. Approval for extension of time is required annually for students who have exceeded the time limits of graduate study. Additional policies are independently developed and implemented by the Rowan University School of Osteopathic Medicine, the Graduate School of Biomedical Sciences, and the Cooper Medical School of Rowan University.

IV. Policy

1. Time Limits for Rowan Global Non-Degree Programs
   a. Students in non-degree graduate-level programs, Post Baccalaureate, or Graduate Certificate (COGS/CAGS) programs are expected to complete program coursework and all other requirements including benchmarks and program exit requirements within nine (9) consecutive terms (3 years), including any summer term, from the original term of matriculation.

2. Time to Degree Completion for Graduate Degree Programs
   a. Students in graduate-level degree programs are expected to complete program coursework and all other requirements including benchmarks and program exit requirements within 21 consecutive terms (7 years), including any summer term, from the original term of matriculation.

3. Extension of Time for Graduate-Level Programs
   a. Graduate students who do not successfully complete their academic program (as verified by the academic department) within the prescribed time limits officially will become "inactive" in the student information system and may need to reapply or submit a completed application for extension of time to continue with the program.
   b. Graduate students may maintain their active status and continue coursework by applying for an extension of time of up to three consecutive terms (1 year), including any summer term, from the original expected term of completion.
   c. Students may submit an application for extension of time one academic term prior to the original expected date of program completion.
   d. Application, with the supporting details and endorsements of the program director and or department chair must be emailed by the program director and department chair to the Office of the respective Academic College Dean and submitted to the Office of Graduate Studies at graduatestudies@rowan.edu.
   e. International students seeking an extension of time to degree completion must consult with the International Center Office prior to submission.

Rowan Core Committee
Proposal: Amendment to Rowan Core Policies

(Spring 2019)
Rowan Core Committee Chair: Nathan Bauer (bauer@rowan.edu)

Contents

Rowan Core Policy

1. *Rationale for this Proposal to Amend Rowan Core Policy*

The original Rowan Core policy was approved by the Senate in October 2015, and it has provided a successful framework for implementation of our new general education model. Inevitably, however, decisions had to be made during the implementation process that were not fully specified in the original proposal. At times, the practical realities of implementation on a tight deadline forced us to make changes to the original policies. The present proposal is a full restatement of Rowan Core policy that reflects these additions and changes. It is followed by an alphabetical table of topics, in the first appendix. The full original proposal is included as a second appendix. Clickable cross-references between revised and original policies are included in marginal comments. For significant changes, the relevant original policy is also included as comments next to the revised version.)

2. *Rowan Core Committee*

The Rowan Core Committee is a standing committee reporting to the Senate. The chair should be a Senator.

COMMITTEE MEMBERSHIP

The committee will consist of 17 members (not including the chair), as follows:

- One faculty from each College and each of the Schools of Earth and Environment and Health Professions (11 members);
- Two additional faculty from any college or school (2 members);
- Two Professional Staff Advisors (2 members).
- Librarian (1 member).
- AFT Representative (1 member).

Notes on committee membership:

- Since the committee reviews confidential documents that include actual student exam questions and assignments, the committee does not include student SGA representatives.
- In 2017-18 and 2018-19, the Committee included two members from most colleges in order to deal with the large influx of new Rowan Core courses. Going forward, the membership structure outlined above will suffice. (This change has already been approved by the Senate.)

COMMITTEE RESPONSIBILITIES

The Rowan Core Committee has the following responsibilities:

- Reviewing proposals to add a Rowan Core literacy to an existing course—or to modify the literacy of an existing Rowan Core course.
- Coordinating with the Curriculum Committee to review proposals for new Rowan Core courses. (The Rowan Core Committee is responsible for reviewing the proposal to add a Rowan Core literacy; all other aspects of the course are reviewed by the Curriculum Committee.)
- Revoking courses from Rowan Core if departments fail to do the approved student assessment.
- Developing and approving changes to Rowan Core policy. Significant changes will need full Senate approval.
- Review alignments of non-Rowan Core courses with Rowan Core literacy outcomes.
- Revise existing Rowan Core learning outcomes (or add new ones) as needed.

ROWAN CORE CHAIR

The original proposal called for the establishment of a Rowan Core Director, starting Spring 2016. This did not happen. In the absence of a Director, the Chair of the Rowan Core Committee will perform the duties of a Core Director: managing the operation of Rowan Core (in close coordination with the Director of Assessment); running the course proposal and review process; providing support for departments developing course proposals; and coordinating with Administrative units as needed when problems arise.

Commented [BNJ1]: Original membership numbers:
Membership will consist of two faculty members from each of the following seven colleges:
- *College of Communication & Creative Arts*
- *College of Education*
- *College of Engineering*
- *College of Humanities & Social Sciences*
- *College of Performing Arts*
- *Rohrer College of Business*
- *College of Science and Mathematics*
(See original policy, p. iv.)
Note: this change already approved by Full Senate.

Commented [BNJ2]: Original responsibilities:
- *Recommending selection of the RC Director*
- *Consulting with departments regarding potential RC course offerings*
- *Reviewing curriculum proposals and attending open hearings for new and existing courses seeking inclusion within the RC.*
- *Evaluating the assessment outcomes submitted by departments for their RC courses*
- *In the interest of teaching students to draw connections among the six Literacies (Artistic, Communicative, Global, Humanistic, Quantitative, and Scientific: see appendix for complete Literacy narratives) and to apply the skills obtained through the study of multiple Literacies to problem-solving, the RCSS Committee will have an ongoing commitment to the creation and implementation of a "Multi-Literacy" designation (see below).*
- *In the interest of specifically targeting the Learning Goals falling under the "Students will engage their learning by" category of each of the six Literacies, the RCSS Committee will have an ongoing commitment to the creation and implementation of an "Experiential Learning" designation (see below).*
(See original policy, p. iv.)

Commented [BNJ3]: Original Core Director policy:
This will be a tenured faculty member, with 9 SH of released time per fall and spring semester and 3 SH summer compensation, recommended by the RCSS Committee and approved by the Provost.The RC Director will report to the Provost's Office. Secretarial staff and office space are required. Responsibilities include:
- *Development and coordination of workshops to train faculty in RC course development and assessment*
- *Reviewing curriculum proposals and scheduling and attending open hearings for new and existing courses seeking inclusion within the RC. Once passed by the RCSS Committee and approved by the RC Director, the University Senate Curriculum Chair will have final curricular approval.*
- *Oversight, coordination and compilation of assessment efforts*
- *laying an integral part in the creation and implementation of a "Multi-Literacy" designation, including scheduling of and staff recruitment for RC Multi-Literacy courses (see below)*
- *Playing an integral part in the creation and implementation of an "Experiential Learning" designation (see below).*
- *Liaise with community colleges regarding issues of general education.*
(See original policy, p. iv.)

Amendment to Rowan Core Policy (Spring 2019)

3. Rowan Core Literacies

Rowan Core replaces the old general education requirements at Rowan University. Rowan Core courses are organized into the following six literacies, with each course belonging to a single literacy. (Note: the original document also specified Learning Goals for each Literacy. These Goals did not end up being used in course proposals and assessment, and so have been removed from the Rowan Core model.) The outcomes listed below are identical to the original versions, apart from correcting minor typos and errors.

ARTISTIC LITERACY

Artistic literacy is the knowledge and understanding of the centrality of the arts and aesthetics to human existence. Art reflects, and artists respond to and interact with, their communities. Artistic literacy requires learning about and engaging in the creative and performing arts. Visual, verbal, physical and auditory expression will be informed by a study of historical and cultural contexts. Active experimental engagement, including critical analysis and evaluation, will foster an aesthetic sensibility, which includes cognitive and emotional responses.

Artistic Literacy Learning Outcomes:

1. Students can use vocabulary related to and names of practitioners of various styles, genres, and traditions.
2. Students can describe historical foundations, ideological dimensions and cultural practices.
3. Students can discuss professional and academic standards in the arts.
4. Students can explain the relationship of the arts to self and society (e.g., the interdependent relationship of artists and audiences; how art, ranging from popular to high art, is both a driver and product of culture).
5. Students can demonstrate how the body, voice and mind can be used to express the creative process.
6. Students can describe the role of critical theory in the arts.
7. Students can experience firsthand and reflect on works of art and artistic performances in several different genres.
8. Students can critique (i.e., describe, analyze, interpret, judge) various forms of expression that are rooted in diverse cultures, values systems, or historical contexts.
9. Students can apply and practice foundation creative techniques, such as visual, verbal, physical and auditory expression, through the creation of an original product or performance.

COMMUNICATIVE LITERACY

Communicative literacy is the capacity to analyze, reflect on, and respond to diverse communication situations. This includes understanding the ways in which audience, context, and purpose shape acts of communication. Communicative literacy is demonstrated through fluency in various modes of communication and effective adaptation, invention, and choice of strategies for communication. Engagement in a range of communicative acts and experiences will cultivate critical awareness and ethical responsibility.

Communicative Literacy Learning Outcomes:

1. Students can compose texts that successfully respond to a variety of rhetorical situations and needs.
2. Students can investigate, discover, evaluate and incorporate information and ideas to create rhetorically adept messages.
3. Students can create messages in a variety of formats, modes, and genres, including visual and digital modes.
4. Students can articulate their rhetorical choices/strategies in response to the needs and expectations of audience, context, and purpose.
5. Students can identify and evaluate various format, modes, and genres of communication within their social context.
6. Students can identify, analyze, and evaluate the rhetorical strategies of complex texts.
7. Students can produce and analyze complex texts (written, oral and nonverbal) for a variety of purposes and demonstrate their understanding of rhetorical strategies, genres, and discourse community expectations, and well as the effect of evolving digital technologies on communication.
8. Students can investigate, discover, evaluate and incorporate information and ideas to create authentic messages.
9. Students can explain how different forms of communication are culturally constructed, meditated, and moderated and how their value and effects are situated in the global, the political, the social, the civic, and the personal.

Amendment to Rowan Core Policy (Spring 2019)

GLOBAL LITERACY

Global literacy is the ability to understand the complexities of one's own society as well as the global community. This requires knowledge of the diversity of world cultures and recognition of the interdependence of the contemporary world. The extensive globalization of the world's economies and societies reveals the limits of human and natural resources in a global context. Knowledge of the reciprocal nature of local and global conditions will produce an international perspective. Engagement will occur through the traditional curriculum as well as high impact, experiential learning, such as Study Abroad, internships, service, and other methods of active community engagement.

Global Literacy Learning Outcomes:

1. Students can demonstrate civic engagement by active participation and reflection.
2. Students can express their knowledge and understanding of another culture.
3. Students can describe connections between local and global communities.
4. Students can communicate their understanding of sustainability in social, cultural, ecological and/or economic milieus, both locally and globally.
5. Students can express connections between the self and community.
6. Students can explain the costs and benefits of globalization.
7. Students can reflect critically on their own cultural experiences, cross-cultural interactions, and the diverse cultural experiences of others.
8. Students can use comparative thinking to understand local/global connections in contemporary society on a range of cultural, political, economic and environmental issues.
9. Students can describe and appraise their civic engagement as active members and builders of multiple communities.

HUMANISTIC LITERACY

Humanistic literacy is the ability to understand how human experience is shaped by economic, political, literacy, socio-cultural, historical and other contexts. Humanistic literacy includes critical awareness of how dominant paradigms are created and shape human thinking and feeling. It also encompasses the ability to empathize with other times, places, cultures, and mindsets and to grasp the complexity of change and perspective. Active engagement involves the study ad interpretation of significant texts and artifacts to develop awareness and to use this awareness to make decisions and to initiate and react to change.

Humanistic Literacy Learning Outcomes:

1. Students can identify and describe major developments in human history and thought.
2. Students can identify major commonalities and differences in human societies.
3. Students can analyze and explain the factors, events, and developments that led to the contemporary world.
4. Students can locate and explain how basic concepts and/or paradigms of different disciplines can provide context for diverse interpretations of a present or past event.
5. Students can incorporate intellectual and social dimensions of human experience into an analysis of local and global contexts.
6. Students can explain the impact of geographic, ecological, political, economic, and socio-cultural contexts on human experience and activity.
7. Students can analyze the context and significance of a particular intellectual moment (e.g., prepares a debate or position paper).
8. Students can interpret texts and/or artifacts through multiple perspectives.
9. Students can evaluate claims, assess evidence, and exercise ethical standards to build a coherent argument on an event or topic.

Amendment to Rowan Core Policy (Spring 2019)

QUANTITATIVE LITERACY

Quantitative literacy is the ability to reason logically and to communicate mathematical ideas verbally, symbolically, and graphically. It means knowing fundamental concepts and techniques of mathematical principles and processes in order to see mathematical functions as quantitative relationships, to understand the concept of probability, and to estimate or approximate answers to questions. This knowledge provides a foundation for understanding how to construct logical arguments and how to make use of mathematical thinking. Quantitative literacy encourages appreciation of mathematics as a practical tool as well as a philosophical and humanistic endeavor which helps to understand the world. Engagement in quantitative literacy includes analysis of the use of mathematics and the application of mathematical thinking and modeling to real-world problems.

Quantitative Literacy Learning Outcomes:

1. Students can define basic statistical and regression vocabulary and also qualitatively describe the meanings relative to a set of given data (e.g. mean vs. median, what does the standard deviation represent; correlation coefficients, and model parameters/coefficients).
2. Students can outline a logical solution to complex real-world problems through simplification to a mathematical model.
3. Students can describe the differences between continuous (e.g. measurable) and discrete (e.g. countable) quantities and how this affects how they can be analyzed.
4. Students can perform basic statistical and regression analyses on data and also qualitatively describe the meaning of the results (e.g. how they change as new data are added, limits of regression models and how they can infer correlation and/or causality).
5. Students can solve complex real-world problems through simplification to a mathematical model and then discuss how that model is affected by adding back in ignored complexities.
6. Students can perform basic analyses on both discrete and continuous data.
7. Students can communicate mathematical ideas in symbolic, graphic, oral and written forms.
8. Students can evaluate the appropriateness and limitations of deterministic and probabilistic models to make informed decisions in real world situations.
9. Students can apply algorithmic thinking to solve quantitative, real world problems.

SCIENTIFIC LITERACY

Scientific literacy is the understanding that science is systematic, evidence-based process of observation, modeling, and testing, to formulate and refine theories which not only explain but predict. Scientific literacy encompasses an appreciation of the role of science in society, technology, engineering, and mathematics. It includes recognition of the scientific knowledge, skills and values that promote informed evaluation of the validity of claims and proposed solutions to current problems. Scientific literacy does not necessarily involve the production of new science but rather it enables one to informed decisions and cooperative engagement in the protection and improvement of the world through scientific processes.

Scientific Literacy Learning Outcomes:

1. Students can demonstrate the ability to conduct scientific measurement and to discuss its limitation due to scientific error/uncertainty.
2. Students can conduct directed experiments including set-up, data collection, data analysis, and interpret results to either "discover" or verify scientific theory.
3. Students can demonstrate knowledge of core ideas and vocabulary of science and the scientific method in written and/or oral work.
4. Students can describe how to design an experiment to test competing hypotheses by manipulating and controlling variables.
5. Students can identify and explain a modern example of public policy drawing on scientific evidence.
6. Students can discuss the utility and limitations of scientific models.
7. Students can conduct, critique and design scientific studies following the standard scientific method.
8. Students can compose and critique scientific arguments as presented in both popular media and scientific literature as well as compose their own.
9. Students can apply scientific data to solve a real-world problem.

Amendment to Rowan Core Policy (Spring 2019)

4. Rowan Core Program Requirements

All undergraduate major programs will require students to complete course requirements in all six Rowan Core Literacies, for a total of 24 sh, as follows:

- Artistic Literacy:
    - any Artistic Literacy-designated course (3 sh)
- Communicative Literacy:
    - COMP 01111 – College Composition I (or equivalent) (3 sh)
    - COMP 01112 – College Composition II (or equivalent) (3 sh)
    - CMS 04205 – Public Speaking (or equivalent) (3 sh)
- Global Literacy:
    - any Global Literacy-designated course (3 sh)
- Humanistic Literacy:
    - any Humanistic Literacy-designated course (3 sh)
- Quantitative Literacy:
    - any Quantitative Literacy-designated course (3 sh)
- Scientific Literacy:
    - any Scientific Literacy-designated course (3 sh)

FUTURE CHANGES TO ROWAN CORE LEARNING OUTCOMES

Some departments have requested changes or additions to the existing Learning Outcomes for certain Literacies. The Rowan Core Committee will consider this issue at a later date.

NON-PROGRAM COURSE REQUIREMENTS

All undergraduate programs require students to complete a category of Non-Program course requirements. In the previous proposal, the credit requirements for this category varied by program type. During the implementation phase, we switched to the following simplified system:

- All programs must include a minimum of 18 sh of Non-Program courses.
- Non-Program courses can include all University courses except those offered by the major department.

> **Commented [BNJ10]:** The original policy's Non-Program requirements are provided on p. i (BA programs) and p. ii (BS programs).

STATUS OF ROWAN EXPERIENCE REQUIREMENTS

Some Rowan Experience requirements are affected by Rowan Core:

- *Public Speaking*: now part of the Communicative Literacy requirements
- *Artistic and Creative Experience (ACE)*: replaced by the Artistic Literacy requirement
- *Multicultural / Global (M/G)*: replaced by the Global Literacy requirement
- *In-Class Laboratory (LAB)*: removed as a University-wide requirement (individual programs still have the option of including a LAB requirement)
- *Rowan Seminar (RS)*: retained as a University-wide requirement
- *Writing Intensive (WI)*: retained as a University-wide requirement
- *Broad-Based Literature (LIT)*: retained as a University-wide requirement

Note: the original proposal recommended that a separately-charged committee develop a proposal to address whether WI and LIT should remain University-wide requirements. In Fall 2018, a task force was convened to consider this question, led by the Chair of the Rowan Core Committee. We will continue to explore this issue.

> **Commented [BNJ11]:** No changes here. See original policy, p. iii.

> **Commented [BNJ12]:** See original policy, p. iii.

USING MAJOR OR NON-PROGRAM COURSES TO SATISFY ROWAN CORE REQUIREMENTS

Rowan Core requirements can now be satisfied by courses from the major subject area. One course could potentially satisfy a Rowan Core requirement, a Rowan Experience requirement and a Major or Non-Program requirement.

COURSE EQUIVALENTS

Courses from outside Rowan University that are recognized as equivalent to a Rowan Core course can be used to satisfy a Rowan Core requirement.

> **Commented [BNJ13]:** No change. See original policy, p. v.

Amendment to Rowan Core Policy (Spring 2019)

RETROACTIVE CREDIT

If a course is added to Rowan Core after a student has taken it, the course will retroactively count as satisfying that student's Rowan Core Literacy requirement.

SUBSTITUTIONS AND WAIVERS

Consistent with our commitment to general education as an institutional curriculum shared by all of our graduates, the Rowan Core requirements apply to all programs. Departments therefore cannot substitute non-equivalent courses in a general way or remove the requirement for fulfilling a literacy from their program. On a case-by-case basis, however, departments may authorize substitutions for individual students when warranted by extenuating circumstances, based on their existing waiver power.

STANDARDIZED PROGRAM GUIDES

In Spring 2018, all existing undergraduate program guides were updated to the new Rowan Core model. As part of this process, a standardized template was developed. In the future, all program guides are expected to follow this template, and submissions of program proposals to the Curriculum Committee should include guides following this template. Because existing students will still be on the previous general education model, each program will need to maintain both versions of their program guides for the time being.

PHASED IMPLEMENTATION OF THE ROWAN CORE REQUIREMENTS

The Rowan Core requirements apply to all first-year, non-transfer students who began at Rowan University in Fall 2018 or later. Continuing students who began at Rowan University prior to Fall 2018 will follow the previous general education curriculum.

Per the Statewide Transfer Agreement, transfer students entering Rowan University with an earned Associate of Arts or Associate of Science degree from a New Jersey community college have fulfilled all lower division General Education requirements. In accordance with the Agreement's provision to ensure that transfer students are well prepared to succeed in baccalaureate coursework, Rowan University will work with the community college sector to facilitate alignment of their General Education courses to our Rowan Core curriculum. As the community colleges develop or revise their courses, specific equivalencies will be established via NJTransfer. Recommended Transfer Programs will be updated through the regular process. In the absence of established equivalencies, best fit equivalencies will be identified. Progress toward alignment will be evaluated with the goal of having new transfer students enter Rowan University in Fall 2022 having fulfilled the Rowan Core requirements.

In the interim (between academic year 2018-19 and academic year 2022-23) all transfer students entering Rowan University, including those with an earned AA or AS degree from a New Jersey community college, will follow the previous general education curriculum. Individual transfer students can switch to the Rowan Core curriculum if they will benefit from doing so. On a case-by-case basis, Rowan University may authorize substitutions for individual transfer students when warranted by extenuating circumstances.

FUTURE ROWAN CORE LITERACY REQUIREMENTS

The previous proposal included information on two possible future Rowan Core requirements: a Multi-Literacy requirement and an Experiential Learning requirement. The Rowan Core Committee may develop proposals for either or both requirements at a future date.

5. *Rowan Core Assessment*

The details of assessment are handled by Rowan University's Director of Assessment. A minimum of two Rowan Core outcomes will be assessed per course per semester. Faculty enter scores for all students in the class (even those students for whom the Rowan Core requirements do not apply). All scores are entered in TracDat/Improve, and faculty are sent links for doing so.

In each course, the student scores for the various Rowan Core Learning Outcomes are translated to a standardized scale. The translation is initially determined by the Department Liaison for this course, working with the Director of Assessment. As we accumulate more data, we will begin a process of calibrating these translations. This process will be carried out by the Senate Learning Outcomes Assessment Committee, in collaboration with the Director of Assessment and the department that offers the course.

6. *Adding Courses to Rowan Core*

The Rowan Core Committee will maintain updated instructions on the process of adding a Rowan Core Literacy designation to a course. This information (along with a proposal template and sample files) will be provided on the Rowan Core Committee website: https://sites.rowan.edu/senate/policy_committees/rowan_core.html. Proposals are composed of a series of alignments, where each alignment consists of the following:

- A *Course Objective* (based on the specific content of that course).
- A *Rowan Core Learning Outcome* (drawn from the list of Outcomes for the chosen Literacy).
- An *Assessment Plan* (providing, in detail, the specific graded questions or assignments that will be used in the course to assess this aligned Objective / Outcome).

Proposals must include at least two alignments (with two distinct Rowan core Outcomes), but they are welcome to include more. For each alignment, the Assessment Plan should include the range of possible point totals. Proposal sponsors should use whatever rubric or point scale makes most sense for their chosen assessment instruments—keeping in mind that all faculty teaching the course will need to use the same scale. The Rowan Core Committee will review each alignment, looking for evidence that the proposed Assessment Plan will successfully measure student success in the aligned Rowan Core Outcomes. If a proposal is rejected by the Rowan Core Committee, the sponsor can appeal this decision to the Curriculum Committee.

Commented [BNJ21]: This process is largely unchanged from the original policy on p. v. The primary change is providing a more specific structure for the proposed assessment plan.

7. *Faculty Privacy Statement*

Rowan Core makes possible detailed visualizations of the accumulated student assessment data. This allows us to detect patterns and trends in student success in the various Rowan Core outcomes—based on demographic data, class level, major, etc. To encourage accurate data collection, it is vital that individual faculty are not being judged or evaluated based on their students' scores. For this reason, Rowan University faculty, staff and administrators will not use Rowan Core data to evaluate individual faculty members, and this data will not be viewable in the Rowan Core dashboards.

Commented [BNJ22]: This is a new policy.

8. *Maintaining and Updating Rowan Core Courses*

Commented [BNJ23]: These are new policies.

DEPARTMENT COURSE LIAISONS

Each course will have an official liaison from the host department. This person will be responsible for the following:

- Ensuring that faculty follow the agreed-upon assessment plan when teaching the course.
- Providing faculty with the resources and information to teach the course in accordance with this plan.
- Helping coordinate the process of entering assessment data in TracDat/Improve
- Working with the Rowan Core Committee Chair, where necessary, to address any problems that arise with the course.

Until the Rowan Core Chair hears otherwise, the initial course proposal sponsor will be considered the department liaison for that course.

COURSE SYLLABUS REQUIREMENTS

The syllabus for each Rowan Core course will include the following information:

- The course objectives that were approved by the Rowan Core committee (additional objectives, unrelated to Rowan Core, can still be included).
- The aligned Rowan Core outcomes that were approved by the Rowan Core Committee.
- A brief statement describing Rowan Core (to be supplied by the Rowan Core Committee).

POLICY ON REVOKING COURSES FROM ROWAN CORE

The Rowan Core Committee is empowered to remove a course's Rowan Core Literacy designation—e.g., in the unlikely event that a department refused to follow the agreed-upon assessment plan. The department would be given an opportunity to defend the course in an open hearing before the Committee voted on this matter. Should a course lose its Rowan Core designation, students who previously took the class will still receive credit for satisfying that Rowan Core Literacy requirement.

Appendix A: Table of Rowan Core Policy Topics

Below is an alphabetical table of the main policy topics, indicating whether the policy has been added or revised, and providing clickable page references to the original and revised documents.

Policy Topic	Status	Location in New policy	Location in Original policy
Adding Courses to Core	Revised Policy	7	v
Artistic Literacy	Unchanged Policy	2	xiii
Assessment	Revised Policy	6	vi
Chair of Core Committee	Revised Policy	1	iv
Committee Membership	Revised Policy	1	iv
Committee Responsibilities	Revised Policy	1	iv
Communicative Literacy	Unchanged Policy	2	xiv
Core Director	Removed Policy	1	iv
Equivalent Courses	Unchanged Policy	5	v
Experiential Learning Designation	Removed Policy	6	ix
Global Literacy	Unchanged Policy	3	xvi
Humanistic Literacy	Unchanged Policy	3	xvii
Learning Goals	Removed Policy	--	v
Major Courses (Counting for Core)	Revised Policy	5	i + ii
Multi-Literacy Designation	Removed Policy	6	viii
Non-Program requirements	Revised Policy	5	i + ii
Privacy statement	New Policy	7	--
Program guides (Standardized)	New Policy	6	--
Quantitative Literacy	Unchanged Policy	4	xviii
Retroactive Credit	New Policy	6	--
Revoking Courses	New Policy	7	--
Rowan Experience	Revised Policy	5	iii
Scientific Literacy	Unchanged Policy	4	xx
Syllabus Language	New Policy	7	--
Task Force (WI and LIT Designations)	Revised Policy	5	iii
Timeline for Implementation	Revised Policy	6	xii
Transfer students	New Policy	6	--
Waivers and Substitutions	Unchanged Policy	6	--

Appendix B: Original Rowan Core Proposal

Quasi-Curricular Proposal
Creation of the New Rowan Core
March 11, 2015

I. DETAILS

A. Proposal Title: Creation of the New Rowan Core

B. Sponsor(s): Ad Hoc Committee on the Rowan Core:
Michael Grove, Committee Chair, Biological Sciences
Fred Adelson, Art
Ralph Dusseau, Civil and Environmental Engineering
Andrew Kopp, Writing Arts
Marilyn Manley, Foreign Languages & Literatures
Lourin Plant, Music
Bruce Plourde, English
Joel Rudin, Management and Entrepreneurship
Holly Willett, Language, Literacy and Special Education

C. Changes (in From/To Format):
1. Creation of a Rowan Core Standing Senate Committee (RCSS Committee)
 Implementation Date: Fall 2015
2. Establishment of a Rowan Core Director (RC Director)
Implementation Date: Spring 2016
3. Replacing General Education bank requirements with the new Rowan Core:

B.A. programs:

From:	C.Hs	To:	C.Hs
Major Requirements	30-39	Major Requirements	30-39
Specified General Education Banks		Rowan Core	
Communication Bank		Communicative Literacy	
COMP 01.111 College Composition I (or its equivalent)	3	COMP 01.111 College Composition I (or its equivalent)	3
COMP 01.112 College Composition II (or its equivalent)	3	COMP 01.112 College Composition II (or its equivalent)	3
		CMS 04205 Public Speaking (or its equivalent)	3
Science and Mathematics Bank	7	Quantitative Literacy Designated Course	3
Social and Behavioral Sciences Bank	6	Scientific Literacy Designated Course	3
History, Humanities and Languages Bank	6	Humanistic Literacy Designated Course	3
		Artistic Literacy Designated Course	3
		Global Literacy Designated Course	3
Non Program (Gen Ed) Courses	26-35	Non Program (Gen Ed) Courses	27-36
Free electives	21-30	Free electives	21-30
Minimum Semester Hours for Degree	120-122	Minimum Semester Hours for Degree	120-122

Original Rowan Core Proposal (Approved Fall 2015)

B.S. programs:

From:	C.Hs	To:	C.Hs
Major Requirements	60-64	Major Requirements	60-64
Specified General Education Banks		Rowan Core	
Communication Bank		Communicative Literacy	
COMP 01.111 College Composition I (or its equivalent)	3	COMP 01.111 College Composition I (or its equivalent)	3
COMP 01.112 College Composition II (or its equivalent)	3	COMP 01.112 College Composition II (or its equivalent)	3
		CMS 04205 Public Speaking (or its equivalent)	3
Science and Mathematics Bank	7	Quantitative Literacy Designated Course	3
Social and Behavioral Sciences Bank	6	Scientific Literacy Designated Course	3
History, Humanities and Languages Bank	6	Humanistic Literacy Designated Course	3
		Artistic Literacy Designated Course	3
		Global Literacy Designated Course	3
Non Program (Gen Ed) Courses	17-29	Non Program (Gen Ed) Courses	18-30
Free electives	6-18	Free electives	6-18
Minimum Semester Hours for Degree	120-122	Minimum Semester Hours for Degree	120-122

Specialized programs:

From:	C.Hs	To:	C.Hs
Major Requirements	60+	Major Requirements	60+
Specified General Education Banks		Rowan Core	
Communication Bank		Communicative Literacy	
COMP 01.111 College Composition I (or its equivalent)	3	COMP 01.111 College Composition I (or its equivalent)	3
COMP 01.112 College Composition II (or its equivalent)	3	COMP 01.112 College Composition II (or its equivalent)	3
		CMS 04205 Public Speaking (or its equivalent)	3
Science and Mathematics Bank	7	Quantitative Literacy Designated Course	3
Social and Behavioral Sciences Bank	6	Scientific Literacy Designated Course	3
History, Humanities and Languages Bank	6	Humanistic Literacy Designated Course	3
		Artistic Literacy Designated Course	3
		Global Literacy Designated Course	3
Non Program (Gen Ed) Courses	17	Non Program (Gen Ed) Courses	18
Free electives	0+	Free electives	0+
Minimum Semester Hours for Degree	120+	Minimum Semester Hours for Degree	120+

Implementation Date: The Rowan Core will be required of all incoming freshmen and transfer students in Fall 2017.

Original Rowan Core Proposal (Approved Fall 2015)

4. Implemented Modifications to Specific Rowan Experience Requirements:

From:	To:
Public Speaking (CMS 04205) (or its equivalent)	Public Speaking (CMS 04205) (or its equivalent)
Artistic and Creative Experience (ACE) Designated Course	Replaced by the Artistic Literacy Designated Course requirement within the Rowan Core
Multicultural/Global (M/G) Designated Course	Replaced by the Global Literacy Designated Course requirement within the Rowan Core
In-Class Laboratory (LAB) Designated Course	Optional program-specific requirement outside of the Rowan Core (i.e. in Non-Program Courses)

Implementation Date: These modifications to Rowan Experience will take effect for all incoming freshmen and transfer students in Fall 2017.

5. Recommended Modifications to Specific Rowan Experience Requirements

From:	To:
Rowan Seminar (RS) Designated Course (required for all freshmen and transfers with freshman status, entering with fewer than 24 credits)	Rowan Seminar (RS) Designated Course (required for all freshmen and transfers with freshman status, entering with fewer than 24 credits)
Writing Intensive (WI) Designated Course	Optional program-specific requirement outside of the Rowan Core (i.e. in Non-Program Courses)
Broad-Based Literature (LIT) Designated Course	Optional program-specific requirement outside of the Rowan Core (i.e. in Non-Program Courses)

Because these requirements are not directly included in the proposed Rowan Core (as is Public Speaking), not redundant with the Core Literacy designations (as are Multicultural/Global and ACE), and not currently assessable under any of the adopted Literacy designations, this proposal cannot determine their final fate. The committee has herein made recommendations which appear consistent with the joint goals of the Rowan Core and Rowan Experience, but we also recommend that a separately charged committee develop a proposal to finalize their status with all practical speed.

Implementation date: TBD

Original Rowan Core Proposal (Approved Fall 2015)

II. DESCRIPTION & RATIONALE

A. Change 1: Creation of a Rowan Core Standing Senate Committee (RCSS Committee)

- To start during the Fall 2015 semester
- The Chair of the RCSS Committee will be a Senator and the RCSS Committee will report to the University Senate.
- Membership will consist of two faculty members from each of the following seven colleges:
  - College of Communication & Creative Arts
  - College of Education
  - College of Engineering
  - College of Humanities & Social Sciences
  - College of Performing Arts
  - Rohrer College of Business
  - College of Science and Mathematics
- Responsibilities include:
  - Recommending selection of the RC Director
  - Consulting with departments regarding potential RC course offerings
  - Reviewing curriculum proposals and attending open hearings for new and existing courses seeking inclusion within the RC.
  - Evaluating the assessment outcomes submitted by departments for their RC courses
  - In the interest of teaching students to draw connections among the six Literacies (Artistic, Communicative, Global, Humanistic, Quantitative, and Scientific: see appendix for complete Literacy narratives) and to apply the skills obtained through the study of multiple Literacies to problem-solving, the RCSS Committee will have an ongoing commitment to the creation and implementation of a "Multi-Literacy" designation (see below).
  - In the interest of specifically targeting the Learning Goals falling under the "Students will engage their learning by" category of each of the six Literacies, the RCSS Committee will have an ongoing commitment to the creation and implementation of an "Experiential Learning" designation (see below).

B. Change 2: Establishment of a Rowan Core Director (RC Director)

- To start in Spring 2016
- This will be a tenured faculty member, with 9 SH of released time per fall and spring semester and 3 SH summer compensation, recommended by the RCSS Committee and approved by the Provost.
- The RC Director will report to the Provost's Office.
- Secretarial staff and office space are required.
- Responsibilities include:
  - Development and coordination of workshops to train faculty in RC course development and assessment
  - Reviewing curriculum proposals and scheduling and attending open hearings for new and existing courses seeking inclusion within the RC. Once passed by the RCSS Committee and approved by the RC Director, the University Senate Curriculum Chair will have final curricular approval.

Commented [BNJ29]: Committee membership numbers updated on p. 1.

Commented [BNJ30]: Committee responsibilities updated on p. 1.

Commented [BNJ31]: See Rowan Core Chair, revised policy, p. 1.

- Oversight, coordination and compilation of assessment efforts
- Playing an integral part in the creation and implementation of a "Multi-Literacy" designation, including scheduling of and staff recruitment for RC Multi-Literacy courses (see below)
- Playing an integral part in the creation and implementation of an "Experiential Learning" designation (see below).
- Liaise with community colleges regarding issues of general education.

C. Change 3: Replacing General Education bank requirements with the new Rowan Core

1. **Curriculum and assessment process and guidelines:**

   a. Identification of potential RC courses:
      - As a first step, by September 30, 2015, all departments should submit a list of potential RC courses (both existing and new) and the corresponding sought-after Literacy designation (i.e. Scientific Literacy, Quantitative Literacy, etc.) to the University Senate President, who will share these with the RCSS Committee in Fall 2015.
         - During the Fall 2015 semester, the RCSS Committee will then examine the departmental lists for the purpose of addressing any anticipated curricular problems or gaps and communicate with the relevant departments. For example, programs within the College of Engineering might request that the Math Department submit particular courses for inclusion within the RC in order to avoid the need to require additional Quantitative Literacy credits for Engineering students.
         - Depending on the number of potential RC courses for a given department, individual faculty members may request 3 SH of released time for exceptional service for the Spring 2016 semester, for the purpose of writing (and revising) RC curriculum proposals.

   b. Submitting RC curriculum proposals:
      - Starting with the Spring 2016 semester, proposals may be submitted for both new and existing courses to be included within the RC.
      - All RC courses will carry one Literacy designation only[1] and all transfer courses equivalent to RC courses will be considered to satisfy the same Literacy designations.
      - In order to gain a Literacy designation, proposals for both new and existing courses must address how the course satisfies each of the four Learning Goals areas described within the respective Literacy narrative; within each Literacy narrative, these four areas are titled, "Students will know", "Students will

Commented [BNJ32]: Because Learning Goals are not being used for assessment purposes, this requirement has been removed from the course proposal process.

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[1] When the Multi-Literacy designation is implemented, courses with the Multi-Literacy designation will carry this designation only and will not also carry single Literacy designations.

understand", Students will appreciate" and "Students will engage their learning by".

- Proposals for the acquisition of a Literacy designation for both new and existing courses must also address how corresponding Learning Outcomes will be satisfied and assessed. The Learning Outcomes listed within each Literacy narrative are not exhaustive; specific proposals may describe Learning Outcomes in addition to those included within each Literacy narrative. Additional Learning Outcomes must be consistent with the Learning Goals of the corresponding Literacy.
- College Composition I, College Composition II, Public Speaking and all courses considered equivalent to these three, which will replace one or more of these three, such as Sophomore Engineering Clinic I (ENGR 01.201 - equivalent to College Composition II) and Sophomore Engineering Clinic II (ENGR 01.202 - equivalent to Public Speaking), are automatically granted the Communicative Literacy designation. Curriculum proposals for College Composition I, College Composition II, Public Speaking and all equivalent courses will only need to address how corresponding Communicative Literacy Learning Outcomes will be satisfied and assessed. Courses developed as Communicative Literacy equivalents of these three courses for use in other programs (or for offering to the wider University community) will be required to follow the same approval procedure as with the other literacy designations.

c. Periodic assessment of RC courses:

> **Commented [BNJ33]:** For the expanded assessment policy, see revised policy, p. 6.

- Initially, for all RC courses, at least one Learning Outcome must be assessed once every two years and reported to the RCSS Committee. The RCSS Committee may choose to revisit both the number of Learning Outcomes assessed and the cycle for assessment.
  - o College Composition I, College Composition II, Public Speaking and all courses considered to be equivalent to these three must satisfy the same assessment requirement, as courses carrying the Communicative Literacy designation.
- If the RCSS Committee determines that the targeted Learning Outcome is not being met for a particular RC course, a plan must be submitted by the end of the following semester, either for alteration of the course, with the goal of satisfying the targeted Learning Outcome, or for a new Learning Outcome and assessment mechanism; the revisions and new assessment will be included in the following assessment report, submitted two years after the submission of the previous report.
  - o The authors of the assessment report may appeal the outcome of the RCSS Committee and pursue the matter with the Learning Outcomes Assessment Committee.

d. Approval of Rowan Core proposals:

- RC proposals not approved by the RCSS Committee will require revision and resubmission.

- o Proposal sponsors may appeal the disapproval of the RCSS Committee and request that their proposal be reviewed by the University Senate Curriculum Committee.
- RC proposals approved by the RCSS Committee proceed to the RC Director, who must review the proposals and write a letter of consultation.
  - o Proposals that have received positive letters of consultation from the RC Director then proceed to the University Senate Curriculum Committee Chair for final approval.
  - o Proposals that have received negative letters of consultation, indicating a lack of support from the RC Director, then proceed to the University Senate Curriculum Committee for further review if appealed by the proposal sponsors.

2. **Rowan Core course structure and requirements:**

   a. Initially, the Rowan Core will consist of the following courses, totaling 24 SH; any of these may be fulfilled within a major program:
   - College Composition I (3 SH)
   - College Composition II (3 SH)
   - Public Speaking (3 SH)
   - Artistic Literacy course (3 SH)
   - Global Literacy course (3 SH)
   - Humanistic Literacy course (3 SH)
   - Quantitative Literacy course (3 SH)
   - Scientific Literacy course (3 SH)

   The above 24 SH will be required of all undergraduate programs; however, courses considered to be equivalent to College Composition I, College Composition II and Public Speaking may be substituted for these three courses. For example, at present, Sophomore Engineering Clinic I (ENGR 01.201) is considered as equivalent to College Composition II and Sophomore Engineering Clinic II (ENGR 01.202) is considered as equivalent to Public Speaking. College Composition I, College Composition II, Public Speaking and all courses considered equivalent to these three are automatically granted the Communicative Literacy designation.

   Additional Communicative Literacy courses may be proposed and used to fulfill program-specific requirements, for example, within non-program electives.

   Transfer students must also satisfy all six Literacy designations and transfer courses will be accepted in satisfaction of RC Literacy designation requirements where equivalent.

   Eventually, the Rowan Core will include a "Multi-Literacy" designation and an "Experiential Learning" designation; depending on the outcomes of the future work on these two new designations accomplished by the RCSS Committee, these two additional elements may add to the total number of credits for the Rowan Core.

Original Rowan Core Proposal (Approved Fall 2015)

b. Multi-Literacy designation:

In the interest of teaching students to draw connections among the six Literacies and to apply the skills obtained through the study of multiple Literacies to problem-solving, the RCSS Committee will have an ongoing commitment to the creation and implementation of a Multi-Literacy designation, to be included within the Rowan Core. Multi-Literacy courses would provide a vital aid in students' understanding of the overall goals of the Rowan Core and the importance of the various Literacies to their lives and chosen careers.

The development of Multi-Literacy courses in the Rowan Core appears particularly appropriate given the University's increased emphasis on collaborative research efforts. In the same way that many courses are informed by the research interests of the faculty member teaching them, Rowan faculty already engaged in collaborative research across disciplines would be able to add a variety of new and greatly beneficial courses to the curriculum. Conversely, faculty who engage in the development of such courses may very well find fertile new ground for collaborative research efforts which do not yet exist on this campus. Finally, the stimulation of conversations regarding pedagogy among faculty in disparate disciplinary areas that should accompany the development of these courses could only help to further integrate the Rowan community.

The RCSS Committee will first need to conduct a detailed investigation of the possibilities for and the appropriateness of implementing (and growing) the Multi-Literacy designation. Following this investigation, a first curriculum proposal will be submitted by the RCSS Committee in Spring 2017 for the inclusion of the Multi-Literacy designation within the Rowan Core. The initial proposal will include the following:

- A set of appropriate Learning Goals and assessable Learning Outcomes, similar in format to those of the Literacy narratives (Artistic, Communicative, Global, Humanistic, Quantitative, and Scientific)
  - o Coverage and assessment of the different Learning Goals and Learning Outcomes for the individual Literacies would not be the primary focus for the Multi-Literacy courses; rather, the abilities of the students to integrate learning across the Literacies and to engage with them as appropriate to the problem at hand are what should be assessed.
- A rationale for either requiring, or making optional, the Multi-Literacy designation for all, or some subset of Rowan University students. Possibilities for implementation considered by the RCSS Committee could include such outcomes as the following **(these examples are to be considered only conjectural possibilities)**:
  - o The RCSS Committee may determine, for example, that the Multi-Literacy designation will be required for all Rowan University students.
  - o The RCSS Committee may determine, for example, that the Multi-Literacy designation will be required for B.A. (or B.S.) students only.

Commented [BNJ34]: The details of the proposed Multi-Literacy designation have been removed from the revised policy (see p. 6), but the Rowan Core Committee may still pursue adding this designation at a future date.

- o The RCSS Committee may determine, for example, that the Multi-Literacy designation will be required for the students of particular colleges only, such as the College of Humanities and Social Sciences.
- o The RCSS Committee may determine, for example, that the Multi-Literacy designation will be optional for all Rowan University students, as a possible replacement for another Rowan Core requirement, such as the Experiential Learning designation.
- o The RCSS Committee may determine, for example, that the Multi-Literacy designation will be a 6 SH requirement/option.
- o The RCSS Committee may determine, for example, that the Multi-Literacy designation will be a 3 SH requirement/option.
- o The RCSS Committee may determine, for example, that Multi-Literacy courses should include two, three, four, five, or all six of the different Literacies.
  - ▪ Multi-Literacy courses incorporating elements of all six existing Literacies could examine a single problem or a narrowly focused set of problems. The teaching of broad themes might require an integrated two-semester sequence for adequate coverage. Example problems could include (but are not limited to):
    - Understanding the nature of creativity and genius
    - Understanding and appreciating the full scope of human diversity
    - How sustainability is best defined and achieved in the modern world
  - ▪ Multi-Literacy courses could focus narrowly on two Literacies, with one of the Literacies being of primary importance in the student's chosen discipline and the other used in examining the discipline from an outsider's perspective. For example, several of the science departments currently require Philosophy of Science for all majors. Also, discipline-specific communication courses (e.g. Writing in the Humanities) would likely be of great interest and utility to many major programs.

c. Experiential Learning designation:

As mentioned above, in the interest of specifically targeting the Learning Goals falling under the "Students will engage their learning by" category of each of the six Literacies (Artistic, Communicative, Global, Humanistic, Quantitative, and Scientific), the RCSS Committee will have an ongoing commitment to the creation and implementation of an Experiential Learning designation, to be included within the Rowan Core. This Experiential Learning designation will primarily be applied to Rowan-approved, out-of-classroom and off-campus learning experiences, such as study abroad, faculty-led study abroad, internships, service learning, volunteerism, clinical practice, etc. At present, in general, there is little or no incentive for Rowan students to participate in such important, hands-on learning experiences. As participating in these types of Experiential Learning activities will undoubtedly enrich the education of Rowan students, benefit the Rowan University Community, benefit the wider community, and make Rowan graduates stronger job candidates, the RCSS Committee will first need to conduct an investigation regarding both the limits of what types of experiences should fall under this designation and the most appropriate

Commented [BNJ35]: The details of the proposed Experiential Learning designation have been removed from the revised policy (see p. 6), but the Rowan Core Committee may still pursue adding this designation at a future date.

way(s) to incentivize these experiences for our students. Following a detailed investigation of the possibilities for and the appropriateness of implementing (and growing) the Experiential Learning designation, a first curriculum proposal will be submitted by the RCSS Committee in Spring 2017 for the inclusion of the Experiential Learning designation within the Rowan Core. As is the case with all curriculum proposals, the initial proposal may be approved or not; if the first proposal is not approved, the RCSS Committee will continue to revise and resubmit, until some form of implementation of the designation is approved. The initial proposal will include the following:

- A set of appropriate Learning Goals and assessable Learning Outcomes, similar in format to those of the Literacy narratives (Artistic, Communicative, Global, Humanistic, Quantitative, and Scientific)
- A rationale for either requiring, or making optional, the Experiential Learning designation for all, or some subset of, Rowan University students. Possibilities for implementation considered by the RCSS Committee could include such outcomes as the following **(these examples are to be considered only conjectural possibilities)**:
  o The RCSS Committee may determine, for example, that Experiential Learning will be a required designation for all Rowan University students.
  o The RCSS Committee may determine, for example, that Experiential Learning will be a required designation for B.A. (or B.S.) students only.
  o The RCSS Committee may determine, for example, that Experiential Learning will be a required designation for the students of particular colleges only, such as the College of Humanities and Social Sciences.
  o The RCSS Committee may determine, for example, that Experiential Learning will be optional for all Rowan University students, as a possible replacement for another Rowan Core requirement, such as taking a Multi-Literacy course.
  o The RCSS Committee may determine, for example, that Experiential Learning will be a 3 SH requirement/option.
  o The RCSS Committee may determine, for example, that Experiential Learning will be a 0 SH requirement/option.

D. Change 4: Modifications to Rowan Experience Requirements (table repeated below)

From:	To:
Public Speaking (CMS 04205) (or its equivalent)	Public Speaking (CMS 04205) (or its equivalent)
Artistic and Creative Experience (ACE) Designated Course	Replaced by the Artistic Literacy Designated Course requirement within the Rowan Core
Multicultural/Global (M/G) Designated Course	Replaced by the Global Literacy Designated Course requirement within the Rowan Core
In-Class Laboratory (LAB) Designated Course	Optional program-specific requirement outside of the Rowan Core (i.e. in Non-Program Courses)

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1. **Public Speaking (CMS 04205):**
   Public Speaking (CMS 04205) or its equivalent, such as Sophomore Engineering Clinic II (ENGR 01.202), is maintained as a requirement within the new Rowan Core, under Communicative Literacy.

2. **Artistic and Creative Experience (ACE) replaced by Artistic Literacy:**
   The goals and outcomes of this designation are redundant with those specified for the Artistic Literacy. In Fall 2017, once the Rowan Core is required of all incoming freshmen and transfer students, the Artistic and Creative Experience (ACE) requirement will be replaced by the new Rowan Core requirement to take one Artistic Literacy Designated Course.

3. **Multicultural/Global Designated Course (M/G) replaced by Global Literacy:**
   The goals and outcomes of this designation are redundant with those specified for the Global Literacy. In Fall 2017, once the Rowan Core is required of all incoming freshmen and transfer students, the Multicultural/Global (M/G) requirement will be replaced by the new Rowan Core requirement to take one Global Literacy Designated Course.

4. **In-Class Laboratory (LAB) Designated Course as optional, program-specific requirement:**
   In the absence of any upcoming curriculum proposal to the contrary, in Fall 2017, once the Rowan Core is required of all incoming freshmen and transfer students, the In-Class Laboratory (LAB) requirement will no longer be in effect university-wide. However, specific programs may choose to require an In-Class Laboratory (LAB) course, for example within Non-Program Courses. Those seeking to gain In-Class Laboratory (LAB) designation for a course may continue, as at present, to submit a curriculum proposal to the University Senate Curriculum Committee.

   There are currently no specifically assessable outcomes associated with the LAB designation, and a proposal seeking to reinstate the In-Class Laboratory (LAB) requirement university-wide and align it with the Rowan Core would thus need to develop Learning Goals and Learning Outcomes, similar to those within the Literacy narratives. Those interested in having a course gain the In-Class Laboratory (LAB) designation would need to address how the course will fulfill the Learning Goals and how assessment will be carried out based on the Learning Outcomes.

   This change will enable programs to develop and offer new or existing courses which fulfill the new Scientific Literacy designation without any constraints as to whether or not an associated LAB designation is also required. From a curricular standpoint, some current or potentially proposed course offerings could adequately address and assess the Learning Goals and Learning Outcomes for the Scientific Literacy designation without a laboratory component.

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III. TIMELINE

- September 30, 2015: Deadline for departments to submit a list of potential RC courses and the corresponding sought-after Literacy designation to the University Senate President.
- Fall 2015: The Rowan Core Standing Senate Committee (RCSS Committee) is formed, selects an RC Director for recommendation to the Provost, and consults with departments regarding potential RC course offerings.
- Spring 2016: The Rowan Core Director (RC Director) assumes his/her position. Faculty members receive released time to write, submit and revise RC curriculum proposals for new and existing courses to obtain a single-Literacy designation.
- Fall 2016: The RCSS Committee conducts investigations for the creation and implementation of a Multi-Literacy designation and an Experiential Learning designation within the Rowan Core.
- Spring 2017: The RCSS Committee submits two curriculum proposals, one for the Multi-Literacy designation and one for the Experiential Learning designation.
- By Spring 2017, departments must submit curriculum proposals for changes to program requirements, resulting from the implementation of the Rowan Core.
- The Rowan Core will be required of all incoming freshmen and transfer students in Fall 2017.

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APPENDIX *[to the original proposal]*

The Rowan Core Literacies
Definitions, Learning Goals and Learning Outcomes

<mark>Artistic Literacy</mark>

Artistic literacy is the knowledge and understanding of the centrality of the arts and aesthetics to human existence. Art reflects, and artists respond to and interact with, their communities. Artistic literacy requires learning about and engaging in the creative and performing arts. Visual, verbal, physical and auditory expression will be informed by a study of historical and cultural contexts. Active experimental engagement, including critical analysis and evaluation, will foster an aesthetic sensibility, which includes cognitive and emotional responses.

Learning Goals
Students will know:
- Vocabulary, practitioners, and various styles, genres, and traditions
- Historical foundations, ideological dimensions and cultural practices
- Practical techniques of expression and the creative process
- Professional and academic standards in the arts

Students will understand:
- The relationship of the arts to self and society
- The interdependent relationship of artists and audiences
- The innovative nature of the creative process
- How the body, voice, and mind can be used to express ideas
- The role of critical theory in the arts
- How art is a driver and product of culture
- The range of artistic contributions, such as "popular" or "high" art

Students will appreciate:
- The value of an aesthetic sensibility
- The role of the arts in society
- The ideological potential of art, e.g., as a means of social protest or political oppression

Students will engage their learning by:
- identifying and describing various forms of artistic expression
- Making and justifying aesthetic judgments
- Critiquing various forms of expression that are rooted in diverse cultures, value systems, or historical contexts
- Applying and practicing foundational creative techniques, such as visual, verbal, physical and auditory expression

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Learning Outcomes

1. Students can use vocabulary related to and names of practitioners of various styles, genres, and traditions.
2. Students can describe historical foundations, ideological dimensions and cultural practices.
3. Students can discuss professional and academic standards in the arts.
4. Students can explain the relationship of the arts to self and society (e.g., the interdependent relationship of artists and audiences; how art, ranging from popular to high art, is both a driver and product of culture).
5. Students can demonstrate how the body, voice and mind can be used to express the creative process.
6. Students can describe the role of critical theory in the arts.
7. Students will experience firsthand and reflect on works of art and artistic performances in several different genres.
8. Students will critique (i.e., describe, analyze, interpret, judge) various forms of expression that are rooted in diverse cultures, values systems, or historical contexts.
9. Students will apply and practice foundation creative techniques, such as visual, verbal, physical and auditory expression, through the creation of an original product or performance.

Communicative Literacy

> **Commented [BNJ38]:** See revised policy, p. 2.

Communicative literacy is the capacity to analyze, reflect on, and respond to diverse communication situations. This includes understanding the ways in which audience, context, and purpose shape acts of communication. Communicative literacy is demonstrated through fluency in various modes of communication and effective adaptation, invention, and choice of strategies for communication. Engagement in a range of communicative acts and experiences will cultivate critical awareness and ethical responsibility.

Learning Goals
Students will know:

- Critical reading and listening skills
- Standards and conventions of written and spoken discourse
- Research and citation skills within academic and nonacademic forums
- Information and communication technologies
- Diverse genres, styles, and strategies

Students will understand:

- How to be receptive as a reader and listener to new information and knowledge
- How individual perspectives affect the reception, interpretation and performance of communicative acts
- How self and community are situated within various communicative contexts, such as the social, the political, the personal, and the civic
- How purpose, audience, and context shape communication
- How language and cultural perceptions shape, construct, and negotiate reality
- How appropriate communication is defined by social groups or contexts through the use of genres, practices, and conventions
- How new media are revolutionizing communication

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Students will appreciate:
- The creative power of language to shape reality (attitudes, actions, knowledge) in multiple forms
- The agility and knowledge required to respond to diverse communication situations
- The limits and possibilities of language use within particular social and material contexts
- The challenges of translation and comprehension
- The importance of intelligibility, purpose, and fluency in all communication forms

Students will engage their learning by:
- Transferring their understanding of effective written, oral, and nonverbal communication to all of their courses
- Practicing their communicative literacy skills in both academic and non-academic settings
- Taking responsibility for using language ethically, understanding that language is a powerful tool with social and material dimensions, functions, and consequences
- Critically analyzing how different modes of communication are constructed, meditated and moderated

Learning Outcomes
1. Students can compose texts that successfully respond to a variety of rhetorical situations and needs.
2. Students can investigate, discover, evaluate and incorporate information and ideas to create rhetorically adept messages
3. Students can create messages in a variety of formats, modes, and genres, including visual and digital modes.
4. Students can articulate their rhetorical choices/strategies in response to the needs and expectations of audience, context, and purpose.
5. Students can identify and evaluate various format, modes, and genres of communication within their social context.
6. Students can identify, analyze, and evaluate the rhetorical strategies of complex texts.
7. Students will produce and analyze complex texts (written, oral and nonverbal) for a variety of purposes and demonstrate their understanding of rhetorical strategies, genres, and discourse community expectations, and well as the effect of evolving digital technologies on communication.
8. Students will investigate, discover, evaluate and incorporate information and ideas to create authentic messages.
9. Students will explain how different forms of communication are culturally constructed, meditated, and moderated and how their value and effects are situate din the global, the political, the social, the civic, and the personal.

Global Literacy

Global literacy is the ability to understand the complexities of one's own society as well as the global community. This requires knowledge of the diversity of world cultures and recognition of the interdependence of the contemporary world. The extensive globalization of the world's economies and societies reveals the limits of human and natural resources in a global context. Knowledge of the reciprocal nature of local and global conditions will produce an international perspective. Engagement will occur through the traditional curriculum as well as high impact, experiential learning, such as Study Abroad, internships, service, and other methods of active community engagement.

Learning Goals
Students will know:
- The interconnectedness and interdependencies of the global community
- The issues regarding environmental, social and economic sustainability
- The social and cultural differences that influence individuals' lived experiences as members of communities
- The multiple avenues for civic engagement

Students will understand:
- Their perspective, rights and obligations as members of multiple communities
- The connections among the self, the local community and the global community
- How sustainability issues are embedded in disparate social, cultural, ecological, and economic milieus
- The costs and benefits of globalization
- Why solutions to many of today's problems are often borderless
- How culture shapes one's world view

Students will appreciate:
- How diversity in gender, race/ethnicity, ability, status, sexual orientation, national origin, etc. impacts individuals' differing lived experiences
- The value of civic engagement for the individual and for the community
- The growing internationalization of human experience
- The complex interdependencies of world economies and societies
- The interplay between cultural traditions and the increasing standardization of the global community
- The pervasiveness and importance of technology and its impact on global communities
- The history, literature, language, arts and cultures of other societies

Students will engage their learning by:
- Participating as builders and active members of multiple communities
- Engaging in international experiences (such as Study Abroad, study of foreign languages and cultures, service learning in an immigrant community, internationally focused co-curricular activities, etc.)

- Analyzing and reflecting upon social justice, multiculturalism, sustainability, and diversity in both local and international contexts

Learning Outcomes
1. Students can demonstrate civic engagement by active participation and reflection.
2. Students can express their knowledge and understanding of another culture.
3. Students can describe connections between local and global communities.
4. Students can communicate their understanding of sustainability in social, cultural, ecological and/or economic milieus, both locally and globally.
5. Students can express connections between the self and community.
6. Students can explain the costs and benefits of globalization.
7. Students will reflect critically on their own cultural experiences, cross-cultural interactions, and the diverse cultural experiences of others.
8. Students will use comparative thinking to understand local/global connections in contemporary society on arrange of cultural, political, economic and environmental issues.
9. Students will describe and appraise their civic engagement as active members and builders of multiple communities.

Humanistic Literacy

> **Commented [BNJ40]:** See revised policy, p. 3.

Humanistic literacy is the ability to understand how human experience is shaped by economic, political, literacy, socio-cultural, historical and other contexts. Humanistic literacy includes critical awareness of how dominant paradigms are created and shape human thinking and feeling. It also encompasses the ability to empathize with other times, places, cultures, and mindsets and to grasp the complexity of change and perspective. Active engagement involves the study ad interpretation of significant texts and artifacts to develop awareness and to use this awareness to make decisions and to initiate and react to change.

Learning Goals
Students will know:
- Human commonalties and differences as represented by histories, literary traditions, philosophical and religious viewpoints, and political and economic systems around the globe and throughout human history
- The major developments in human history and thought that led to the complex modern world

Students will understand:
- How the basic concepts/paradigms of major disciplines provide context for diverse interpretations of the present and past
- Intellectual and social dimensions of human experience in local and global contexts
- The impact of geographic, ecological, political, economic, and socio-cultural contexts on human experience and activity

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Students will appreciate:
- The complexity of any historical moment, including the present, is a product of multiple, interacting forces within economic, political, geographic, socio-cultural, and other contexts
- That continuity and change as inherent to human experience
- That understanding the past takes into account knowing the values and culture of a particular time and place
- That intellectual inquiry generates debate and controversy, often leading to new perspectives

Students will engage their learning by:
- Studying texts and artifacts that reflect the concerns and experiences of the intellectual moment in which they were created
- Interpreting these texts and artifacts in light of a variety of theoretical and critical perspectives while demonstrating an understanding that no absolute "truth" exists in such interpretive efforts
- Using sound reason to evaluate claims, assess evidence, and guide decision making.

Learning Outcomes
1. Students can identify and describe major developments in human history and thought.
2. Students can identify major commonalities and differences in human societies.
3. Students can analyze and explain the factors, events, and developments that led to the contemporary world.
4. Students can locate and explain how basic concepts and/or paradigms of different disciplines can provide context for diverse interpretations of a present or past event.
5. Students can incorporate intellectual and social dimensions of human experience into an analysis of local and global contexts.
6. Students can explain the impact of geographic, ecological, political, economic, and socio-cultural contexts on human experience and activity.
7. Students will analyze the context and significance of a particular intellectual moment (e.g., prepares a debate or position paper).
8. Students will interpret texts and/or artifacts through multiple perspectives.
9. Students will evaluate claims, assess evidence, and exercise ethical standards to build a coherent argument on an event or topic.

Quantitative Literacy

> **Commented [BNJ41]:** See revised policy, p. 4.

Quantitative literacy is the ability to reason logically and to communicate mathematical ideas verbally, symbolically, and graphically. It means knowing fundamental concepts and techniques of mathematical principles and processes in order to see mathematical functions as quantitative relationships, to understand the concept of probability, and to estimate or approximate answers to questions. This knowledge provides a foundation for understanding how to construct logical arguments and how to make use of mathematical thinking. Quantitative literacy encourages appreciation of mathematics as a practical tool as well as a philosophical and humanistic endeavor which helps to understand the world. Engagement in quantitative literacy includes analysis of the use of mathematics and the application of mathematical thinking and modeling to real-world problems.

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Learning Goals
Students will know:
- Fundamental functions and relational thinking
- Analytical thinking—how functions change as underlying parameters change
- Algorithmic thinking—being able to model a "real-world" problem as a "math-world" problem
- Computational thinking—how to solve complex problems through iterative processes
- Basic descriptive statistics (definitions, concepts)
- The distinction between continuous and discrete quantities (analog v. digital; real numbers v. natural numbers, measurable v. countable)

Students will understand:
- How to construct a complete, logical argument in quantitative terms
- Mathematical modeling as a representation of reality that can be evaluated based on its usefulness
- Applications and limitations of computational and statistical reasoning
- The difference between correlation and causality
- Quantitative and logical reasoning

Students will appreciate:
- Mathematics as a philosophical abstraction
- The contribution of quantitative reasoning to human innovation and progress

Students will engage their learning by:
- Communicating mathematical ideas in symbolic, graphic, oral and written forms
- Evaluating the appropriateness and limitations of quantitative models of real-world situations
- Applying algorithmic thinking to solve quantitative, real-world problems
- Assessing the claims of others and make informed decisions about issues related to probability

Learning Outcomes
1. Students can define basic statistical and regression vocabulary and also qualitatively describe the meanings relative to a set of given data (e.g. mean vs. median, what does the standard deviation represent; correlation coefficients, and model parameters/coefficients)
2. Students can outline a logical solution to complex real-world problems through simplification to a mathematical model.
3. Students can describe the differences between continuous (e.g. measureable) and discrete (e.g. countable) quantities and how this affects how they can be analyzed.
4. Students can perform basic statistical and regression analyses on data and also qualitatively describe the meaning of the results (e.g. how they change as new data are added, limits of regression models and how they can infer correlation and/or causality).

5. Students can solve complex real-world problems through simplification to a mathematical model and then discuss how that model is affected by adding back in ignored complexities.
6. Students can perform basic analyses on both discrete and continuous data.
7. Students will communicate mathematical ideas in symbolic, graphic, oral and written forms.
8. Students will evaluate the appropriateness and limitations of deterministic and probabilistic models to make informed decisions in real world situations.
9. Students will apply algorithmic thinking to solve quantitative, real world problems.

Scientific Literacy

Commented [BNJ42]: See revised policy, p. 4

Scientific literacy is the understanding that science is systematic, evidence-based process of observation, modeling, and testing, to formulate and refine theories which not only explain but predict. Scientific literacy encompasses an appreciation of the role of science in society, technology, engineering, and mathematics. It includes recognition of the scientific knowledge, skills and values that promote informed evaluation of the validity of claims and proposed solutions to current problems. Scientific literacy does not necessarily involve the production of new science but rather it enables one to informed decisions and cooperative engagement in the protection and improvement of the world through scientific processes.

Learning Goals
Students will know:
- Basic working definitions and vocabulary
- Universal unifying concepts in science
- Scientific skills including critical observation, objective analysis, measurement, estimation, and analyzing uncertainties (scientific error)

Students will understand:
- How science uses specific processes to yield accepted results
- How science uses models (simplifications) to represent the world and how these models are evaluated as a function of their usefulness
- The difference among fact, hypothesis, and theory
- That the world is a collection of explainable phenomena and that it is possible to identify what is not yet known
- The importance of science in formulating public policy

Students will appreciate:
- The concept that learning science requires doing science
- Science is a human process, with a history and social context
- The value of science for understanding the natural world and improving the human condition
- That scientific conclusions must be informed by scientific evidence resulting from a systematic process of inquiry and reflective practice
- The value of a healthy, informed inquiry
- The accessibility of scientific knowledge and skills

# Original Rowan Core Proposal (Approved Fall 2015)

Students will engage their learning by:
- Solving problems and making decisions in systematic ways by collecting and analyzing data to verify or falsify a hypothesis and by using evidence to distinguish between competing hypotheses
- Communicating scientific information effectively
- Being informed consumers of science

Learning Outcomes
1. Students can demonstrate the ability to conduct scientific measurement and to discuss its limitation due to scientific error/uncertainty.
2. Students can conduct directed experiments including set-up, data collection, data analysis, and interpret results to either "discover" or verify scientific theory.
3. Students can demonstrate knowledge of core ideas and vocabulary of science and the scientific method in written and/or oral work.
4. Students can describe how to design an experiment to test competing hypotheses by manipulating and controlling variables.
5. Students can identify and explain a modern example of public policy drawing on scientific evidence.
6. Students can discuss the utility and limitations of scientific models.
7. Students will conduct, critique and design scientific studies following the standard scientific method.
8. Students will compose and critique scientific arguments as presented in both popular media and scientific literature as well as compose their own.
9. Students will apply scientific data to solve a real-world problem.

How to Spot a Phishing Email
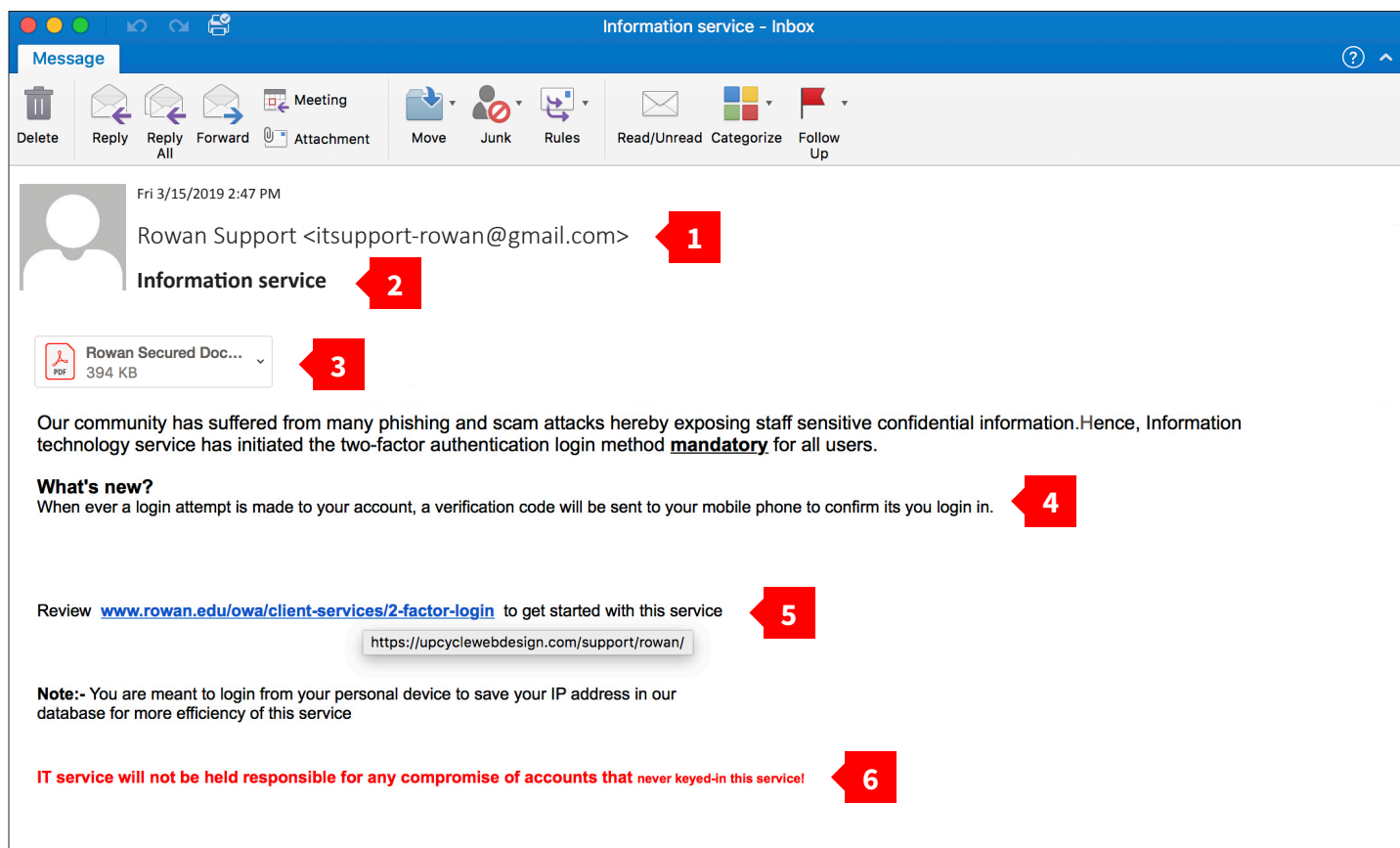
From Field
1

STOP & ASK YOURSELF:
Do I know the sender? Do I normally communicate with the sender? Is the email from a suspicious domain, like microsoft-support.com?

Subject Line
2

STOP & ASK YOURSELF:
Does the subject line create a sense of urgency? Does the subject line match the content of the email? Would the sender use this subject line?

Attachment
3

STOP & ASK YOURSELF:
Was I expecting to receive an attachment? Do I normally receive attachments from this sender? What type of file is the attachment?

Use of Language
4

STOP & ASK YOURSELF:
Does the email include obvious spelling and grammatical errors? Does the language in the email seem out of the ordinary for the sender?

Hyperlinks
5

STOP & ASK YOURSELF:
Does the text of the link match the link's destination? Does the link include a misspelling or slightly modified version of a known URL?

Sense of Urgency
6

STOP & ASK YOURSELF:
Am I being asked to click a link or open an attachment immediately to avoid a negative consequence or gain something of value?

Do you have questions about a "phishy" email? Contact IRT before you click!
Support specialists are available to help you determine how to respond to a suspicious email. Call 856-256-4400 or email support@rowan.edu for assistance.