

ROWAN COLLEGE  
CURRICULUM COMMITTEE

PROPOSAL TITLE: \_\_\_\_\_

UNDERGRADUATE       GRADUATE       CREDIT HOURS

SPONSOR(S): \_\_\_\_\_

DEPARTMENT & TELEPHONE# \_\_\_\_\_

CHECK ONE:     COURSE     MINOR PROGRAM     CONCENTRATION     SPECIALIZATION  
                    ACHIEVEMENT CERTIFICATE     CERTIFICATION PROGRAM     MAJOR PROGRAM

<p style="text-align: center;"><b>STEP #1 (DEPARTMENT)</b></p> <p><input checked="" type="checkbox"/> APPROVED/DATE: <u>10/19/95</u></p> <p><input type="checkbox"/> NOT APPROVED/DATE: _____</p> <p>DEPT. CURRICULUM CHR. _____</p> <p><input type="checkbox"/> REVIEWED/DATE: _____</p> <p style="text-align: center;"><i>Elizabeth S. Mason</i> DEPT. CHR.</p>	<p style="text-align: center;"><b>STEP #2 (RECEIPT)</b></p> <p>SCC# <u>95-96-57</u></p> <p>DATE RECEIVED: _____</p> <p style="text-align: center; font-size: 2em; font-weight: bold;">SENATE</p> <p style="text-align: center; font-weight: bold;">RECEIVED</p> <p style="text-align: center;"><i>Robert J. Nathan</i> SENATE CURRICULUM CHR.</p>	<p style="text-align: center;"><b>STEP #3 (SCHOOL)</b></p> <p>REVIEWED DATE: - <u>3/16/96</u></p> <p><input checked="" type="checkbox"/> RECOMMEND TO APPROVE</p> <p><input type="checkbox"/> RECOMMEND NOT TO APPROVE</p> <p style="text-align: center;">FORWARD FOR OPEN HEARING</p> <p><input type="checkbox"/> WITHOUT RESERVATIONS</p> <p><input type="checkbox"/> WITH RESERVATIONS</p> <p>COMMENTS: _____</p> <p style="text-align: center;"><i>[Signature]</i> SCHOOL COMMITTEE CHR.</p>
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<p><b>STEP #4 (ACADEMIC DEAN)</b></p> <p><input type="checkbox"/> RECOMMEND</p> <p><input type="checkbox"/> NOT RECOMMEND</p> <p><input type="checkbox"/> CONDITIONALLY RECOMMEND (SEE COMMENTS)</p> <p>DATE &amp; SIGNATURE, DEAN OF SCHOOL _____</p>	<p>COMMENTS: _____</p> <p style="text-align: right; font-size: 2em; font-weight: bold;">SENATE</p>
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<p><b>STEP #5 (SENATE CURRICULUM COMMITTEE)</b></p> <p>DATE OF OPEN HEARING <u>12-10-96</u></p> <p>APPROVED BY SENATE CURRICULUM COMMITTEE (DATE) <u>12/10/96</u></p> <p><input type="checkbox"/> RETURNED TO SPONSOR(S) FOR THE FOLLOWING REASONS:</p> <p>_____</p> <p>_____</p>
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<p><b>STEP #6 (SENATE)</b></p> <p>DATE PRESENTED TO SENATE <u>1/10/97</u>      <input type="checkbox"/> APPROVED      <input type="checkbox"/> NOT APPROVED</p> <p>NOTIFICATION TO EXECUTIVE VICE PRESIDENT/PROVOST (DATE) _____</p> <p>SENATE CURRICULUM COMMITTEE CHAIR SIGNATURE/DATE <u>[Signature]</u></p>
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STEP #7 (EXECUTIVE VICE PRESIDENT/PROVOST)

DATE RECEIVED \_\_\_\_\_

APPROVED: \_\_\_ YES \_\_\_ NO

IF NO, REASONS ARE AS FOLLOWS:

STUDENT CREDIT HOURS \_\_\_\_\_

FACULTY LOAD HOURS \_\_\_\_\_

EQUALIZED CREDIT HOURS \_\_\_\_\_

OFFICE OF THE EXECUTIVE VICE PRESIDENT/PROVOST APPROVAL SHEET FILED (DATE) 1/31/97

SIGNATURE OF EXECUTIVE VICE PRESIDENT/PROVOST [Signature]

REGISTRAR

DATE APPROVED COURSE DESCRIPTION RECEIVED \_\_\_\_\_

HEGIS TAXONOMY AND COURSE NUMBER ASSIGNED \_\_\_\_\_

DATE/SIGNATURE OF REGISTRAR \_\_\_\_\_

NOTIFICATION FORWARD:

\_\_\_ SENATE CURRICULUM COMMITTEE CHAIRPERSON

\_\_\_ DEPARTMENT CHAIRPERSON(S)

\_\_\_ ACADEMIC DEAN(S)

\_\_\_ REGISTRAR

\_\_\_ SPONSOR(S)

## NEW COURSE PROPOSAL

### Senior Seminar - WI

#### 1. Details

- a. Course Title: Senior Seminar in Math/Science
- b. Sponsors: Liberal Studies: Math/Science Track Committee  
Diane Ashton, Department of Philosophy & Religion  
Janet Caldwell, Department of Mathematics  
Karen Magee-Sauer, Department of Chemistry & Physics  
Patricia Mosto, Department of Biological Sciences  
Robert Newland, Department of Chemistry & Physics  
Joanne Scott, Department of Biological Sciences
- c. Credit Hours: 3 s. h.
- d. Course Level: Undergraduate; 400-level HEGIS number requested
- e. Curricular Effect:  
This course will be the required senior seminar course for Majors in the Liberal Studies: Math/Science Track.
- f. Prerequisites:  
Senior status; declared Major in Liberal Studies: Math/Science
- g. Suggested Time and Scale of Implementation:  
Effective Fall 1997. It is anticipated that the new Liberal Studies: Math/Science Track will eventually have 20-24 Majors each year. Initially, one section of this course will be offered per year. As the enrollment in the Major increases to its maximum of 24, two sections of this course will have to be offered each year.
- h. Adequacy of Resources:  
This course is just one of several new courses being proposed for the new concentration in the Liberal Studies major. The new concentration will require an increase in 1 full-time position in Chemistry/Physics and 1/2-time position in Biological Sciences.

#### 2. Rationale:

This senior seminar course will expand and deepen students' abilities in using the various research methods in Science and Mathematics. The course will require students to produce a significant research paper displaying their understanding of the field explored during the seminar. It will provide them with insight into issues in scientific research, and provide the depth essential in an interdisciplinary program.

As a writing-intensive course, the instructor will work with the students at all levels of their writing -- outline, rough draft, revisions.

The current trend in teacher's education is to strengthen the exposure of the students to Mathematics- and Science-related fields. In an effort to provide the students in this Track with new opportunities, the senior seminar will aid students in integrating broadly divergent approaches to the study of science and mathematics. The course will also provide students with a culminating experience which will clarify, and advance the depth of, their work in this Major.

3. Essence of the Course:

The Senior Seminar will require that students develop their own research in scientific topics. To enable them to accomplish that task, the course will be designed to focus their attention on the ways in which research is used by scholars in this field. Classroom discussion, oral presentations and short analyses of scientific work will prepare them for their culminating research project.

a. Objectives

- To expose the student to current research literature dealing with important issues in the scientific field, and teach the student to interpret the scientific text.
- To deepen students' understanding of scientific research and to guide them in research of their own.
- To improve students' listening, speaking, research and writing skills.
- To improve students' skills in analysis and synthesis, particularly as applied to the close reading of scientific papers.

b. Topical Outline/Content

The content of the seminar may focus on any one of the number of issues in math and science. For example:

- *The origin of the universe and the origin of life*
- *Environment pollution and its ethics*
- *Social issues in biotechnology (Human Genome Project and Eugenics, Health Foods and the Scientific Method)*
- *Human adaptations to their physical environment*
- *Medical Imaging*
- *Voyager results (and other spacecraft missions)*
- *Information storage and retrieval (CD, digital tapes, digital vs. analog, history of such things )*
- *FDA approval process*
- *Patent approval process*
- *Science & Technology Committee of Congress. How it works, who is on it, topics they are discussing this session.*

The course will be geared to enable students to complete their research project successfully, training them to use reviews in the field as well as on-line computer searches.

c. Evaluation and Grading Procedure of Students

At the discretion of the professor, students may be graded on classroom participation, paper reading analysis, bibliographic searches, outlines and rough drafts, as well as their final paper.

d. Course Evaluation

The course will be evaluated on a regular basis by program review, faculty observations, etc.

4. Result of Consultation

The course is specific to the Math and Science Track/Liberal Studies Major, and no other departments are involved in offering this course.

## Catalog Description

0XXX.4XX Senior Seminar

(Prerequisites: Senior status for Liberal Studies: Math/Science Track      3 s.h.)

This course provides the opportunity for students to engage in their own research into specific scientific topics and to significantly advance their own scholarly development in the field. Students will interact with the instructor and the other students in the seminar in the development and completion of their individual projects. The central theme will vary by semester. Topics will include case studies of applied and theoretical math and scientific research.

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Joanne Scott, Department of Biological Sciences
- c. Credit Hours: 3 s. h.
- d. Course Level: Undergraduate; 400-level HEGIS number requested
- e. Curricular Effect:  
This course will be the required senior seminar course for Majors in the Liberal Studies: Math/Science Track. It will also fulfill their Gen.Ed. Writing-Intensive requirement.
- f. Prerequisites:  
Senior status; declared Major in Liberal Studies: Math/Science
- g. Suggested Time and Scale of Implementation:  
Effective Fall 1997. It is anticipated that the new Liberal Studies: Math/Science Track will eventually have 20-24 Majors each year. Initially, one section of this course will be offered per year. As the enrollment in the Major increases to its maximum of 24, two sections of this course will have to be offered each year.
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