

Glassboro State College Senate Curriculum Committee



Approval Form 9-901-507

Proposal Title: Facilitating Change in Mathematics & Science

Sponsor(s) J Caldwell Dept.: Mathematics Ext. 6513

and others (see list) (Interdisciplinary course)

Check one: Course Specialization Concentration Minor Achievement Certificate
 Certification Program Major Program Minor Change
(please name deletion or credit/title/catalog change)

Undergraduate Graduate 3 Credit Hours

<p>Step 1 (Department)</p> <p><input checked="" type="checkbox"/> Approved <u>10-1-93</u> Date</p> <p><input type="checkbox"/> Not Approved</p> <p><u>J Caldwell</u> Dept. CC Chairperson</p> <p><input type="checkbox"/> Reviewed _____ Date</p> <p><u>J Caldwell, Chair</u> <u>SSI Committee</u> Dept. Chairperson</p>	<p>Step 2 (Receipt)</p> <p><input checked="" type="checkbox"/> SCC# <u>93-04-10</u></p> <p>Proposal Received _____ Date</p> <p><u>Mary L. Putman</u> SCC Chairperson</p>	<p>Step 3 (School CC)</p> <p>Reviewed <u>11/4/93</u></p> <p><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not Approved</p> <p>Comments:</p> <p>_____ School Curr. Comm. Chairperson</p>
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Step 4 (Academic Dean) **Comments:**

Recommend
 Not Recommend
 Conditionally Recommend (see comments)

Reviewed 11/15/93
Date

J. ...
Signature, Dean of School

Step 5 (SCC)

Open Hearing 11/5/93 Approved by Senate Curriculum Committee 12/3/93
Date Date

Returned to sponsor(s) for the following reasons:

Step 6 (Senate)

Presented to Senate 12/12/93
Date

Approved Not Approved

Notification to Executive Vice-President/Provost 12/13/93
Date

Mary L. Putman
Signature, SCC Chairperson

Step 7 (Executive V.P./Provost)

Received _____
Date

Approved Yes No

If no, reasons are as follows:

Student credit hours _____

Faculty load hours _____

Equalized credit hours _____

Official copy and approval sheet filed _____
Date

Signature, Executive Vice-President/Provost

Registrar

Approved course description received 14 Feb-94
Date

Hegis Taxonomy and Course Number assigned 4901-507

[Signature]
Signature, Registrar

14 Feb-94
Date

Notification forwarded:

- Senate Curriculum Committee Chairperson
- Department Chairperson(s)
- Academic Dean(s)
- Registrar
- Sponsor(s)

COURSE PROPOSAL

Facilitating Change in Mathematics and Science

1. Details

- a. Course Title: Facilitating Change in Mathematics and Science
- b. Sponsor(s): Janet Caldwell, Mathematics
Robert Blough, Elementary Education
Louis Molinari, Elementary Education
Karen Magee-Sauer, Chemistry and Physics
Joanne Scott, Life Sciences
- c. Credit Hours: 3
- d. Course Level: Graduate
- e. Curricular Effect: Part of a new emphasis strand in Master's in Elementary Education
- f. Prerequisites: Workshop in Mathematics and Science
- g. Suggested Time and Scale of Implementation: To be offered each fall, beginning in 1994.
- h. Adequacy of Resources: For at least the first five years, this course will be funded through a grant. Faculty from a variety of disciplines will be encouraged to teach this course. Present resources are adequate for teaching the course. At the conclusion of the grant period, this course may continue to be offered, under the administration of the Department of Elementary Education, depending upon demand for the course.

2. Rationale

This course will be the last of three to be offered as part of the Statewide Systemic Initiative in elementary mathematics and science. As part of this statewide program, Rowan faculty have developed a series of three advanced graduate-level, interdisciplinary courses to be offered each spring, summer, and fall. It is anticipated that these courses will form the core experience for an elementary mathematics/science endorsement to the state K-8 teaching certificate. These courses build on the participants' expertise in mathematics and/or science to develop leadership skills in integrating mathematics and science.

This course will initially be administered through the SSI grant. At the end of the grant period, the course will be administered by Elementary Education.

3. Essence of the Course

This course is designed to foster students' leadership skills in the areas of science and mathematics. As such, it will focus on recent changes in mathematics and science content as well as techniques for bringing about educational change.

a. Objectives

Students completing this course will be able to:

- identify and describe recent changes in the fields of mathematics and science.
- identify and describe obstacles to change in the schools and strategies for overcoming those obstacles.
- function as change agents in their own schools with respect to the teaching of mathematics and science.
- present mathematics and science workshops for colleagues in their schools.

b. Topical Outline/Content - see above.

c. Evaluation and Grading

Students in this course will be evaluated on the basis of participation in class, oral presentations, written papers, and/or quizzes.

d. Course Evaluation

The course will be evaluated by an outside evaluator on an ongoing basis as part of the Statewide Systemic Initiative. In addition, faculty will use formative evaluations each semester to improve the course.

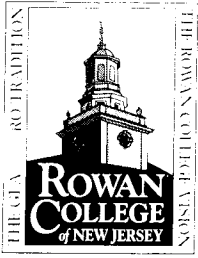
4. Results of Consultations

This course is brought forward as an interdisciplinary course, sponsored by Elementary Education, Mathematics, Chemistry and Physics, and Life Sciences.

6. Catalog Description

Facilitating Change in Mathematics and Science
(Prerequisite: Workshop in Mathematics and Science)

Students in this interdisciplinary course will review recent developments in the sciences and in mathematics that affect the importance of specific topics. In addition, they will examine and apply the research on facilitating change in the schools.



Rowan College of New Jersey

201 Mullica Hill Road
Glassboro, New Jersey 08028-1701 • (609) 863-6363

*Curriculum and Instruction:
Elementary/Early Childhood Education Department*

December 3, 1993

To Whom It May Concern:

The three course proposals Seminar in Integrating Mathematics and Science, Workshop in Mathematics and Science, and Facilitating Change in Mathematics and Science, are excellently designed courses and are welcomed by the Graduate Committee in the Elementary Education Department. These courses are most timely, and relevant to the needs of the professional elementary teacher and, as such, can be used as electives in the Masters of Arts in Elementary Education program.

The courses are so designed as to bring about activity in the areas of investigation, design, and implementation in the vital areas of mathematics, science, and technology. The literature today is calling for such developments and we are happy to support these efforts and recognize the unique opportunity to keep our program vital and responsive to the needs of the field professional.

Very truly yours,

Louis Molinari, Ed.D.
Graduate Advisor, Elementary/Early
Childhood Department

LM/djb



Rowan College of New Jersey

201 Mullica Hill Road
Glassboro, New Jersey 08028-1701 • (609) 863-5342 • FAX: (609) 863-6165

*School of Liberal Arts and Sciences
Office of the Dean*

TO: Janet Caldwell, Mathematics

FROM: Pearl W. Bartelt, Acting Dean

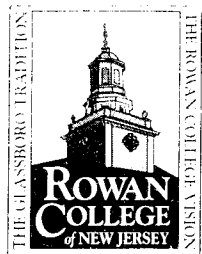
DATE: October 7, 1993

SUBJECT: Seminar on Integrating Mathematics and Science
Workshop in Mathematics and Science
Facilitating Change in Mathematics and Science

I am happy to offer my strong support for the new graduate level courses, Seminar on Integrating Mathematics and Science, Workshop in Mathematics, and Science and Facilitating Change in Mathematics and Science.

As you know, I have attended some of the meetings planning the Statewide Systemic Initiative in elementary mathematics and science, and find what we are planning to do exciting and essential to improve the teaching of math and science at the K-8 level. I am particularly encouraged by the interdisciplinary support for the courses. The departments of Mathematics, Elementary Education, Chemistry and Physics, and Life Sciences are all essential parts of such a proposal. I am glad that faculty from each of these departments are proposal sponsors.

I truly think these courses will help make a difference in how we teach mathematics and science in our schools.



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201 Mullica Hill Road

Glassboro, New Jersey 08028-1701 • (609) 863-5241 • FAX: (609) 863-5018

School of Education and Related Professional Studies

Office of the Dean

To: Dr. Janet Caldwell, Mathematics ✓
Dr. Robert Blough, Elementary Education
Dr. Louis Molinari, Elementary Education
Dr. Karen Magee-Sauer, Chemistry and Physics
Dr. Joanne Scott, Life Sciences

From: David E. Kaper, Dean, School of Education and Related
Professional Studies

Date: September 10, 1993

Subj: Course Proposals:
1. Seminar on Integrating Mathematics and Science
2. Workshop in Mathematics and Science
3. Facilitating Change in Mathematics and Science

This is a strong letter of support for the three proposed courses related to the improvement of Mathematics and Science skills for Elementary School Teachers. These courses are long overdue and I believe will make a major contribution to teacher inservice in South Jersey.

I am particularly intrigued by the scope of the Seminar on Integrating Mathematics and Science. I believe that this approach could be a model for the integration of Mathematics and Science instruction for Elementary School Teachers. I can see it as a model for an integrated major for students at Rowan.

Again, I fully support the course proposals and applaud the opportunity that the SSI Grant is providing our College.

DEK:dm
crsprop.cur



Rowan College of New Jersey

201 N. 3rd St.
P.O. Box 281
Glassboro, NJ 08028-0281
Phone: 856-261-6045

September 9, 1993

TO WHOM IT MAY CONCERN:

This is a letter of support for the three courses that are being proposed to implement the Statewide Systemic Initiative (SSI). Those courses are:

1. Seminar on Integrating Mathematics and Science
2. Workshop in Mathematics and Science
3. Facilitating change in Mathematics & Science

The SSI is designed to help elementary school teachers bring up their skill levels in Math and Science. Considering how important Math and Science is to a technological society like ours, we can only applaud the state for this SSI. It is needed and we feel that these courses will help in this program.

Sincerely,

Gary S. Itzkowitz, Chair

GSI/bjc