CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

NEW COURSE PROPOSAL

PROGRAM AREAS _____ MATH

1. Catalog Description of the Course. [Include the course prefix, number, full title, and units. Provide a course narrative including prerequisites and corequisites. If any of the following apply, include in the description: Repeatability (May be repeated to a maximum of ______units); time distribution (Lecture _____ hours, laboratory _____ hours); non-traditional grading system (Graded CR/NC, ABC/NC). Follow accepted catalog format.]

Math 565 RESEARCH IN MATHEMATICS EDUCATION (3)

Three hours lecture per week

Prerequisite: Admission to the Computer Science or Mathematics Graduate Program

Mathematical research methods in education. Current issues of college level curriculum including systems of geometry, algebra, precalculus, calculus, probability and statistics, linear algebra, differential equations, and discrete mathematics.

2. Mode of Instruction.

Lecture	Units 3	Hours per Unit 1	Benchmark Enrollment 24
Seminar			
Laboratory			
Activity			

3. Justification and Learning Objectives for the Course. (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

This course is an elective for MS in Applied Mathematics.

Through this course, students will be able to

- Identify important issues of college level mathematics curriculum
- Demonstrate effective research methods in educational context
- Apply effective teaching techniques to college level mathematics.
- Discuss pedagogy and teaching methods for various topics
- Use modern technology and mathematical software
- Express ideas related to teaching of mathematics in oral and written form.

4. Is this a General Education Course NO

5. Course Content in Outline Form. [Be as brief as possible, but use as much space as necessary]

- a) Current issues of mathematics curriculum: abstract thinking, problem solving, technology use.
- b) Pedagogy and teaching methods for geometry, algebra, precalculus, calculus, probability and statistics, linear algebra, differential equations, and discrete mathematics.
- c) Conducting research in education: theoretical and practical aspects.

6. References. [Provide 3 - 5 references on which this course is based and/or support it.]

a) Handbook of Research on Mathematics Teaching and Learning, NCTM, D. Grouws (Ed), Macmillan Publishing Co., (1992). *b)* Research articles.

7. List Faculty Qualified to Teach This Course.

All Mathematics faculty

8. Frequency.

a. Projected semesters to be offered: Fall X_ Spring X_ Summer _____

9. New Resources Required.

a. Computer (data processing), audio visual, broadcasting needs, other equipment

none

b. Library needs

none

c. Facility/space needs

none

10. Consultation.

Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

I. Grzegorczyk

Proposer of Course

Date

Approvals

Program Coordinator	Date
GE Committee Chair (If applicable)	Date
Curriculum Committee Chair	Date
Dean	Date

Effective Semester:

Course prefix, number, title, and units: _____ MATH 565

2. Program Areas: <u>MATH</u>

Recommend Approval

Program Area/Unit	Program/Unit	YES	NO	Date
	Coordinator		(attach	
			objections)	
Art				
Business & Economics				
Education				
ESRM				
Humanities				
Liberal Studies				
Mathematics & CS				
Sciences				
Library*				
Information Technology*				

* If needed