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 318 MATHEMATICS FOR SECONDARY SCHOOL TEACHERS (3)
Three hours of lecture per week,
Prerequisite: MATH 150.
Current issues of modern secondary school math curriculum including abstract thinking and problem solving approaches to teaching. Content covers systems of geometry, algebra, precalculus, calculus, probability and statistics. Designed for students intending to become secondary school teachers.

2. **Mode of Instruction.**

	Units	**Hours per Unit**	**Benchmark Enrollment**
Lecture	___3_____	___1_____	__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 a required course for mathematics majors intending to teach. Open to other students.

Through this course, students will be able to

- Identify important issues of modern secondary mathematics curriculum
- Demonstrate effective problem solving approaches to teaching
- Discuss effective teaching techniques to the instruction of geometry, algebra, calculus, probability and statistics.
- Discuss pedagogy and teaching methods for various grade levels
- Use modern technology and mathematical software in the classroom
- Express ideas related to teaching of secondary school mathematics in oral and written form.

This course is not designed to satisfy the University Writing or Language requirements.

4. **Is this a General Education Course** **No**
If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Mathematics & Sciences)	
C (Fine Arts, Literature, Languages & Cultures)	
D (Social Perspectives)	
E (Human Psychological and Physiological Perspectives)	

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

Current issues of modern secondary school math curriculum: abstract thinking and problem solving approaches to teaching.
Pedagogy and teaching methods for various grade levels
Systems of geometry, algebra, precalculus, calculus, probability and statistics: Theoretical and practical aspects.

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

Handbook of Research on Mathematics Teaching and Learning, NCTM, D. Grouws (Ed), Macmillan Publishing Co., (1992).
Modern Geometries, J. Smart, Brooks/Cole Publishing Co. (2000)
Integrating Research an the Graphical Represebtation of Functions, Romberg, Fennems, Carperter, Lawrence/Erlbaum, (2000).

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)

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

Ivona Grzegorczyk 1/8/03

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Proposer of Course Date