

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 208. MODERN MATH FOR ELEMENTARY TEACHING I- NUMBERS AND PROBLEM SOLVING (3)

Three hours of lecture per week

Prerequisite: A passing score on the Entry Level Mathematics Examination or Math 095.

Current issues of modern math curriculum including abstract thinking and problem solving approaches to teaching. Content covers systems of numeration, nature of numbers and fundamental operations, relations and functions, properties of integers, rational and real numbers, and mathematical modeling. Problem solving strategies and geometric interpretations are stressed. Designed for students intending to teach in K-8. This course is not open to students who have credit for Calculus.

GenEd: B3

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 Liberal Studies students in Teaching Option.

Through this course, students will be able to

- Identify important issues of modern elementary mathematics curriculum
- Demonstrate effective problem solving approaches to teaching
- Apply effective teaching techniques to the instruction of arithmetic, geometry and algebra.
- Discuss content, 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 YES

If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
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B (Mathematics & Sciences)	B3
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]*

Modern math curriculum including abstract thinking and problem solving approaches to teaching
Systems of numbers and geometric interpretation of real numbers,
Fundamental operations,
Relations and functions
Properties of integers,
Rational and real numbers,
Mathematical modeling
Mathematical modeling.
Problem solving strategies
Theoretical and practical aspects of mathematics.

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

Problem Solving Approach to Mathematics for Elementary School Teachers, R.Billstein, S.,Liebskind, J.Lott, Addison Wesley (2000).

Handbook of Research on Mathematics Teaching and Learning, NCTM, D. Grouws (Ed), Macmillan Publishing Co., (1992).
Knowing and Teaching Elementary Mathematics, Liping Ma, Lawrence Erlbaum Ass., (1999).

7. List Faculty Qualified to Teach This Course.

All Mathematics faculty

8. Frequency.

a. Projected semesters to be offered: Fall ☒ Spring ☒ 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.

_____ Ivona Grzegorzcyk _____ 1/8/03 _____