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 230 LOGIC AND MATHEMATICAL REASONING (3)
Three hours of lecture per week.
Introduction to modern deductive logic. Critical thinking and abstract approaches to common language. Includes abstract sets and number sets, relations, prepositional logic, common language cases, and theory of quantification.

GenEd:A3

2. Mode of Instruction.

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<tr>
<th>Lecture</th>
<th>Units</th>
<th>Hours per Unit</th>
<th>Benchmark Enrollment</th>
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<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>24</td>
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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]

The course is a required course for Mathematics majors.

Through this course, students will be able to

- Analyze statements of common language in a critical and abstract manner
- Use deductive logic in a variety of everyday and scientific situations.
- Work with sets, numbers, relations, propositional structures (both with and without quantification).
- Assess the logical soundness of statements and proofs.
- Present concepts and techniques of logic 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) | A3 |
| 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*

Introduction to modern deductive logic.
Critical thinking and abstract approach to common language.
Abstract sets and number sets
Relations, prepositional logic and theory of quantification.

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

*Logic.* A very short introduction, by **Graham Priest** Oxford University Press (2000)

7. **List Faculty Qualified to Teach This Course.**

All Mathematics and Computer Science Faculty

8. **Frequency.**
   a. Projected semesters to be offered: Fall ___X___ Spring _X____ Summer __X___

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 Grzegorczyk  _______1/8/03____________________
Proposer of Course        Date