CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

COURSE MODIFICATION PROPOSAL

Courses must be submitted by November 9, 2007, to make the next catalog production

DATE (CHANGE DATE IF REVISED): 11.8.07 REV 12.4.07

PROGRAM AREA(S): MATH

1. Catalog Description of the Course. [Follow accepted catalog format.]
   (If Cross-listed please submit prefixes for each discipline being modified)

   OLD
   Prefix MATH Course# 351 Title Real Analysis Units (3)
   3 hours lecture per week
   hours blank per week

   Prerequisites: MATH 250
   Corequisites:

   Description (Do not use any symbols):
   Topics include: real number system, metric spaces, norms, function spaces. Continuity, differentiability, integrability of functions. Sequences and series.

   NEW
   Prefix MATH Course# 351 Title Real Analysis Units (3)
   3 hours lecture per week
   hours blank per week

   Prerequisites: MATH 240 AND MATH 250
   Corequisites:

   Description:
   Topics include real number system, metric spaces, norms, function spaces; continuity, differentiability, integrability of functions; sequences and series.

   Gen Ed Categories
   [ ] CR/NC
   [ ] Repeatable for up to [ ] units
   [ ] Multiple Enrollment in same semester
   [ ] Optional (Student’s choice)

   Hegis Code
   [ ] Mission Based Learning Objectives: [ ] Interdisciplinary [ ] International [ ] Multicultural [ ] Service Learning
   [ ] American Institutions, Title V Section 40404: [ ] Government [ ] US Constitution [ ] US History (Refer to EO 405, for more information at: http://senate.csuci.edu/comm/curriculum/resources.htm
   [ ] Service Learning Course

2. Mode of instruction (Hours per Unit are set for you)

<table>
<thead>
<tr>
<th>Existing</th>
<th>Proposed</th>
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<tbody>
<tr>
<td>Lecture</td>
<td>Units</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
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<tr>
<td>Seminar</td>
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<tr>
<td>Laboratory</td>
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<td>Activity</td>
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<td>Field Studies</td>
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<td>Indep Study</td>
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<td>Other blank</td>
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3. Course Content in Outline Form if Being Changed. [Be as brief as possible, but use as much space as necessary]

   OLD

   NEW

4. 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]

   OLD
   The course is a required course for Mathematics majors.

   NEW
   The course is a required course for Mathematics majors.
Through this course, students will be able to

• Discuss the theoretical basis of the system of real numbers
• Work in general metric and function spaces
• Analyze functions in terms of continuity, differentiability and integrability.
• Demonstrate application of sequences and series on an advanced level.
• Express concepts and techniques of Real Analysis in oral and written form.

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

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

OLD W. Rudin, Real and complex analysis, New York : McGraw-Hill, current addition

NEW W. Rudin, Real and complex analysis, New York : McGraw-Hill, current addition

6. Indicate Changes and Justification for Each. [Check all that apply and follow with justification. Be as brief as possible but, use as much space as necessary.]

☐ Course title
☐ Prefix/suffix
☐ Course number
☐ Units
☐ Staffing formula and enrollment limits
☒ Prerequisites/corequisites
☐ Catalog description
☐ Course content
☐ References
☐ GE
☐ Other

Justification: Students in this course are expected to prove theorems on their own. Without the additional prerequisite of Math 240 Linear Algebra, it is possible for students to enter this course without having developed proof skills. Math 240 Linear Algebra develops proof skills that students need to succeed in Math 351 Real Analysis.

7. ☒ General Education Categories: All courses with GE categories notations (including deletions) must be processed at the GE website: http://summit.csuci.edu/geapproval Upon completion, the GE Committee will forward your documents to the Curriculum Committee for further processing.

A (English Language, Communication, Critical Thinking)
A-1 Oral Communication
A-2 English Writing
A-3 Critical Thinking

B (Mathematics, Sciences & Technology)
B-1 Physical Sciences
B-2 Life Sciences – Biology
B-3 Mathematics – Mathematics and Applications
B-4 Computers and Information Technology

C (Fine Arts, Literature, Languages & Cultures)
C-1 Art
C-2 Literature Courses
C-3a Language
C-3b Multicultural

D (Social Perspectives)
8. New Resources Required. **YES ☐ NO ☒**
   If YES, list the resources needed and obtain signatures from the appropriate programs/units on the consultation sheet below.
   
   a. Computer (data processing), audio visual, broadcasting needs, other equipment)
   
   b. Library needs
   
   c. Facility/space needs

9. Will this course modification alter any degree, credential, certificate, or minor in your program? **YES ☐ NO ☒**
   If, YES attach a program modification form for all programs affected.

10. Effective Date (Semester and Year – all modifications submitted prior to November 9th will be effective in the Fall 2008 catalog): Fall 2008

   Geoffrey Buhl                      10/2/07
   Proposer of Course Modification    Date
Approvals
Program/Course: Math 351

__________________________________________________________
Program Chair(s) Date

__________________________________________________________
General Education Chair(s) Date

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Curriculum Committee Chair(s) Date

__________________________________________________________
Dean of Faculty Date