

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.

Gen Ed Categories
 Lab Fee Required
 Hegis Code

Graded
 CR/NC Repeatable for up to _____ units
 A - F Multiple
 Optional Enrollment in same semester
 (Student's choice)

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

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
 Lab Fee Required

Graded
 CR/NC Repeatable for up to _____ units
 A - F Multiple
 Optional Enrollment in same semester
 (Student's choice)

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

	<u>Existing</u>				<u>Proposed</u>				
	Units	Hour Per Unit	Benchmark Enrollment	CS# Units (filled out by Dean)	Units	Hour Per Unit	Benchmark Enrollment	CS# Units (filled out by Dean)	
Lecture	<u>3</u>	<u>1</u>	<u>24</u>	_____	Lecture	<u>3</u>	<u>1</u>	<u>25</u>	<u>17011</u>
Seminar	_____	_____	_____	_____	Seminar	_____	_____	_____	_____
Laboratory	_____	_____	_____	_____	Laboratory	_____	_____	_____	_____
Activity	_____	_____	_____	_____	Activity	_____	_____	_____	_____
Field Studies	_____	_____	_____	_____	Activity	_____	_____	_____	_____
Indep Study	_____	_____	_____	_____	Activity	_____	_____	_____	_____
Other blank	_____	_____	_____	_____	Activity	_____	_____	_____	_____

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

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- 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)

E (Human Psychological and Physiological Perspectives)
UD Interdisciplinary

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

Proposer of Course Modification

10/2/07

Date

Approvals

Program/Course: Math 351

Program Chair(s)

Date

General Education Chair(s)

Date

Curriculum Committee Chair(s)

Date

Dean of Faculty

Date