

CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

COURSE MODIFICATION PROPOSAL

Courses must be submitted by October 15, 2010, and finalized by the end of the fall semester to make the next catalog (2011-12) production

DATE (CHANGE DATE EACH TIME REVISED): 10/10/10; REV 3.16.11; REV 4.14.11

PROGRAM AREA(S): MATH

Directions: All of sections of this form must be completed for course modifications. Use YELLOWED areas to enter data. All documents are stand alone sources of course information.

1. Indicate Changes and Justification for Each. [Mark all change areas 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
Mode of Instruction
Course Content
X Course Learning Outcomes
References
GE
Other
Reactivate Course

Justification: Improve student learning outcomes

2. Course Information.

[Follow accepted catalog format.] (Add additional prefixes if cross-listed)

Table with 2 columns: OLD and NEW. Rows include course details like Prefix, Title, Units, hours, Prerequisites, Consent of Instructor, Catalog Description, General Education Categories, Grading Scheme, Repeatability, Total Completions, Multiple Enrollment, and Course Level.

3. Mode of Instruction (Hours per Unit are defaulted)

Hegis Code(s) _____
(Provided by the Dean)

Existing

Proposed

	Units	Hours Per Unit	Benchmark Enrollment	Graded		Units	Hours Per Unit	Benchmark Enrollment	Graded	CS No. (filled out by Dean)
Lecture	3	1	30	x	Lecture	3	1	22	x	
Seminar		1			Seminar		1			
Lab		3	Lab/class		Lab		3	Lab/class		
Activity		2			Activity		2			
Field Studies					Field Studies					
Indep Study					Indep Study					
Other blank					Other blank					

4. Course Attributes:

x **General Education Categories:** All courses with GE category notations (including deletions) must be submitted to 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
- x 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)

UDIGE/INTD Interdisciplinary

- Meets University Writing Requirement
- Meets University Language Requirement

American Institutions, Title V Section 40404: Government US Constitution US History
Refer to website, Exec Order 405, for more information: <http://senate.csuci.edu/comm/curriculum/resources.htm>

Service Learning Course (Approval from the Center for Community Engagement must be received before you can request this course attribute).

5. Justification and Requirements for the Course. [Make a brief statement to justify the need for the course]

OLD

This course is required for Business major students

NEW

This course is required for Business major students

according to accreditation guidelines.

according to accreditation guidelines. It is also a requirement for Mathematics students emphasizing business management, and it is a free elective for mathematics students

- Requirement for the Major/Minor
- Elective for the Major/Minor
- Free Elective

- Requirement for the Major/Minor
- Elective for the Major/Minor
- Free Elective

Submit Program Modification if this course changes your program.

6. Student Learning Outcomes. (List in numerical order. You may wish to visit resource information at the following website: <http://senate.csuci.edu/comm/curriculum/resources.htm>)

Upon completion of the course, the student will be able to:

OLD



Upon completion of the course, the student will be able to:

NEW

Students will be able to

- discuss the application of statistics in business and research situations.
- discuss the nature of statistical inference and apply the methods
- analyze data in statistical and graphical terms.
- use a computer-based statistics software package.
- apply a variety of commonly used techniques and the models underlying them.
- formulate a generally posed scientific question as a statistical question in a written and oral form

7. Course Content in Outline Form. (Be as brief as possible, but use as much space as necessary)

OLD

Students will be able to

- discuss the application of statistics in business and research situations.
- discuss the nature of statistical inference and apply the methods
- analyze data in statistical and graphical terms.
- use a computer-based statistics software package.
- demonstrate a variety of commonly used techniques and the models underlying them.
- express a generally posed scientific question as a statistical question in a written and oral form

NEW

1. Data and Statistics
2. Descriptive Statistics I
3. Descriptive Statistics II
4. Introduction to Probability
5. Discrete Probability Distributions
6. Continuous Probability Distributions
7. Sampling Distributions
8. Interval Estimation
9. Hypothesis Tests
10. Two Population Inference
11. Goodness of Fit
12. Simple Linear Regression
13. Multiple Regression
14. Forecasting

Does this course content overlap with a course offered in your academic program? Yes

No

If YES, what course(s) and provide a justification of the overlap. This course is similar in content Math 202 and 201 but includes advanced topics on applications of statistics to business.

Does this course content overlap a course offered in another academic area? Yes No

If YES, what course(s) and provide a justification of the overlap.

Overlapping courses require Chairs' signatures.

8. Cross-listed Courses (Please note each prefix in item No. 1)

- A. List cross-listed courses (Signature of Academic Chair(s) of the other academic area(s) is required).
- B. List each cross-listed prefix for the course:
- C. Program responsible for staffing:

9. References. [Provide 3-5 references]

OLD *Statistics For Management and Economics*, Gerald Keller, Brian Warrack, Brookes/Cole 2002

NEW *Statistics For Management and Economics* (8th ed.). Gerald Keller, Brian Warrack, South-Western College Pub 2008

10. Tenure Track Faculty qualified to teach this course.

All math faculty

11. Requested Effective Date or First Semester offered:

12. New Resource Requested: Yes No

If YES, list the resources needed.

- A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)
- B. Library Needs (streaming media, video hosting, databases, exhibit space, etc.)
- C. Facility/Space/Transportation Needs:
- D. Lab Fee Requested: Yes No (Refer to the Dean's Office for additional processing)
- E. Other.

13. Will this course modification alter any degree, credential, certificate, or minor in your program? Yes No

If, YES attach a program update or program modification form for all programs affected.

Priority deadline for New Minors and Programs: **October 4, 2010** of preceding year.

Priority deadline for Course Proposals and Modifications: **October 15, 2010**.

Last day to submit forms to be considered during the current academic year: **April 15th**.

Ivona Grzegorzcyk

10/10/10

Proposer(s) of Course Modification

Date

Type in name. Signatures will be collected after Curriculum approval.

Request for MATH 329: STATISTICS FOR BUSINESS AND ECONOMICS to be added to GE Category B3: Mathematics -- Mathematics and Applications.

Committee Response:

Approved by committee on 11-17-2010

Criteria and Justifications Submitted:

- *Promote the understanding and appreciation of the methodologies of math or science as investigative tools and the limitations of mathematical or scientific endeavors*
The focus of this course is the development and use of statistical methods for testing hypotheses, problem solving, and the consequences to the underlying economical systems. Students learn different types of hypothesis testing and learn the uses and limitations of different statistical tests and related technologies.
- *Present mathematical or scientific knowledge in a historical perspective and the influences of math and science on the development of world civilizations, both past and present*
Students in this course will "apply quantitative problem-solving skills to social science and health related problems and issues." These health and social science issues are chosen to show the impact of statistical tool on the development of these scientific areas.
- *Apply inductive and deductive reasoning processes and explore fallacies and misconceptions in the mathematical or scientific areas*
Students will learn to re-express questions about business in terms of a statistical question which they will apply statistical tests to answer. Students will be able to express the level of accuracy to their answer and analyze errors produced by software systems.
- *Promote an understanding of mathematical ideas and problem solving skills*
Students learn the theory behind and application of statistics and the related software applications as well as hypothesis testing methods and decision making. Students apply these methods in the business realm.

Approval Sheet

Course: Math 329

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

Program Chair		
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Signature

Date

Program Chair		
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Signature

Date

Program Chair		
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Signature

Date

General Education Chair		
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Signature

Date

Center for Intl Affairs Director		
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Signature

Date

Center for Integrative Studies Director		
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Signature

Date

Center for Multicultural Engagement Director		
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Signature

Date

Center for Civic Engagement and Service Learning Director		
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Signature

Date

Curriculum Chair		
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Signature

Date

Dean of Faculty		
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Signature

Date