

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): 05.09.11; REV 10.6.11

PROGRAM AREA(S): BUS

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. Course Information.

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

OLD

Prefix ECON Course# 488 Title **ECONOMETRICS** Units (4)
 3 hours lecture per week
 2 hours LAB per week

X Prerequisites: ECON 310 or 329; MATH 150, BIOL 202 or MATH 340 or MATH 342.

Consent of Instructor Required for Enrollment
 Corequisites:

Catalog Description (Do not use any symbols):
 Emphasis on the collection and manipulation of economic data, and the application of econometric methods to business and resource management issues. Development of testable hypotheses, applications of estimation techniques and interpretation of regression results. Use of econometric software applications to estimate statistical relations.

General Education Categories <input type="checkbox"/>	<input type="checkbox"/> Graded CR/NC	<input type="checkbox"/> Repeatable for up to <input type="checkbox"/> units Total Completions <input type="checkbox"/>
<input type="checkbox"/> Lab Fee Requested	<input checked="" type="checkbox"/> A - F	<input type="checkbox"/> Multiple Enrollment in same semester
Course Level: <input type="checkbox"/> Undergraduate	<input type="checkbox"/> Optional (Student's choice)	
<input type="checkbox"/> Post-bac/Credential Graduate		

NEW

Prefix ECON Course# 488 Title **ECONOMETRICS** Units (4)
 3 hours lecture per week
 2 hours activity per week

X Prerequisites: ECON 310 or 329; **MATH 140 or** 150, BIOL 202 or MATH 340 or MATH 342.

Consent of Instructor Required for Enrollment
 Corequisites:

Catalog Description (Do not use any symbols):
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Course Level: <input type="checkbox"/> Undergraduate	<input type="checkbox"/> Optional (Student's choice)	
<input type="checkbox"/> Post-bac/Credential Graduate		

2. 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	<u>3</u>	<u>1</u>	<u>30</u>	<input checked="" type="checkbox"/>	Lecture	<u>3</u>	<u>1</u>	<u>30</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Seminar	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	Seminar	<input type="checkbox"/>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lab	<u>1</u>	<u>3</u>	<u>30</u>	<input checked="" type="checkbox"/>	Lab	<input type="checkbox"/>	<u>3</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activity	<input type="checkbox"/>	<u>2</u>	<input type="checkbox"/>	<input type="checkbox"/>	Activity	<u>1</u>	<u>2</u>	<u>30</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Field Studies	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Field Studies	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indep Study	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Indep Study	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other blank	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Other blank	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Course Attributes:

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
- 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).

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

OLD

This course is required for the Resource Management Emphasis in the Environmental Science and Resource Management Program and is an upper division elective for the minor in Economics. The purpose of this course is to provide an introduction to the applied quantitative and analytical skills necessary to decision-makers in many contexts including the private and public sectors. Emphasis is placed on learning-by-doing: students develop fundamental econometric skills through the use of empirical data and statistical software which augments lecture-based instruction. The use of econometric techniques draws a critical link between theoretical models and empirical application

X Requirement for the Major/Minor

Elective for the Major/Minor

Free Elective

NEW

This course is required for **the BA in Economics**, the Resource Management Emphasis in the Environmental Science and Resource Management Program and is an upper division elective for the minor in Economics. The purpose of this course is to provide an introduction to the applied quantitative and analytical skills necessary to decision-makers in many contexts including the private and public sectors. Emphasis is placed on learning-by-doing: students develop fundamental econometric skills through the use of empirical data and statistical software which augments lecture-based instruction. The use of econometric techniques draws a critical link between theoretical models and empirical application

X Requirement for the Major/Minor

Elective for the Major/Minor

Free Elective

Submit Program Modification if this course changes your program.

5. Student Learning Outcomes. (List in numerical order. <http://senate.csuci.edu/comm/curriculum/resources.htm>)

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

OLD

1. Collect appropriate data for various types of analyses. (3)
2. Manage and prepare data for empirical analysis. (3)
3. Formulate testable hypotheses on the basis of economic or management theory. (1,4)

You may wish to visit resource information at the following website:

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

NEW

1. Collect appropriate data for various types of analyses. (3)
2. Manage and prepare data for empirical analysis. (3)
3. Formulate testable hypotheses on the basis of economic or management theory. (1,4)

4. Apply econometric techniques to test hypotheses. (4)
5. Perform and interpret the results of multiple linear regression. (4)
6. Detect and correct basic problems in regression analysis. (4)
7. Generate forecasts from econometric results. (3,4)

* Program Learning Goals: 1) Apply economic analysis to evaluate everyday decisions and policy proposals. 2) Propose viable solutions to practical problems in economics. 3) Use empirical evidence to support an economic argument. 4) Conduct statistical analyses of data, and interpret statistical results. 5) Communicate effectively in written, spoken and graphical form about economic issues.

4. Apply econometric techniques to test hypotheses. (4)
5. Perform and interpret the results of multiple linear regression. (4)
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6. Course Content in Outline Form. (Be as brief as possible, but use as much space as necessary)

OLD

Introductory Concepts

Turning data into information: the purpose of empirical work

What is econometrics?: specialized techniques for economic data

Scope of applicability: management decisions related to business, natural resources and government

Working with Data

Data sources and reliability

Manipulation with spreadsheets, databases

Basic statistical programming: infilling, merging, sorting

Knowing the data: means, measures of dispersion, and correlation

Estimators and Estimates

Unbiasedness and efficiency

The concept of Least Squares

Applied Linear Regression

Key assumptions

Technique and interpretation: coefficients, measures of significance, goodness of fit

Hypothesis testing: single and joint hypotheses

Forecasting and simulation

Violations of the Key Assumptions: Detection and Correction

Non-linearities in economic data and log-linear conversions

Heteroskedasticity

Multicollinearity

Qualitative Explanatory Variables

Interpretation of categorical data

Developing meaningful interaction variables

Qualitative Dependent Variables

Logistic regression techniques

Interpretation of regression estimates as categorical probabilities

Polychotomous and ordered categorical dependent variables

Basic Time Series and Panel Analysis

Autoregressive Moving Average models

Fixed and random effects

Empirical Applications

Business: demand estimation, cost estimation, elasticity

Resource Management: resource depletion, pollution abatement, resource valuation, policy impact, I/O

Other potential applications

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Other potential applications

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.

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.

7. 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:

8. References. [Provide 3-5 references]

OLD

Bateman, Ian, Andrew Lovett and Julii Brainard. *Applied Environmental Economics*. Cambridge. 2003.
Berndt, Ernst. *The Practice of Econometrics: Classic and Contemporary*. Addison Wesley. 1996.
Gujarati, Damodar. *Basic Econometrics 4th Edition*. McGraw-Hill. 2003.
Manly, Bryan F.J. *Statistics for Environmental Science and Management*. CRC Press. 2000.
Wooldridge, J.M. *Introductory Econometrics: A Modern Approach*. South-Western College Publishing. 2003.

NEW

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Berndt, Ernst. *The Practice of Econometrics: Classic and Contemporary*. Addison Wesley. 1996.
Gujarati, Damodar. *Basic Econometrics 4th Edition*. McGraw-Hill. 2003.
Manly, Bryan F.J. *Statistics for Environmental Science and Management*. CRC Press. 2000.
Wooldridge, J.M. *Introductory Econometrics: A Modern Approach*. South-Western College Publishing. 2003.

9. Tenure Track Faculty qualified to teach this course.

Dr. Claudio Paiva

Dr. Paul Rivera

10. Requested Effective Date or First Semester offered:

11. 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.

12. 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.]

- | | |
|---|--|
| <input type="checkbox"/> Course title | <input type="checkbox"/> Course Content |
| <input type="checkbox"/> Prefix/suffix | <input type="checkbox"/> Course Learning Outcomes |
| <input type="checkbox"/> Course number | <input type="checkbox"/> References |
| <input type="checkbox"/> Units | <input type="checkbox"/> GE |
| <input type="checkbox"/> Staffing formula and enrollment limits | <input checked="" type="checkbox"/> Other Justification and Faculty |
| <input checked="" type="checkbox"/> Prerequisites/Corequisites | <input type="checkbox"/> Reactivate Course |
| <input type="checkbox"/> Catalog description | |
| <input type="checkbox"/> Mode of Instruction | |

Justification:

- 1. Add Math 140 as an option to meet the prerequisites for Econ 488. The vast majority of business and economics majors take Math 140, and it is an appropriate prerequisite for Econometrics.

- 2. Add specification in the Course Justification to indicate that Econ 488 is a required course for the BA in Economics.
- 3. Add Dr. Claudio Paiva as tenure track faculty qualified to teach Econ 488.

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**.

Paul Rivera

May 9, 2011

Proposer(s) of Course Modification

Date

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

Approval Sheet

Course: Econ 488 Econometrics

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.

The CI program review process includes a report from the respective department/program on its progress toward accessibility requirement compliance. By signing below, I acknowledge the importance of incorporating accessibility in course design.

Program Chair		
Signature		Date
Program Chair		
Signature		Date
Program Chair		
Signature		Date
General Education Chair		
Signature		Date
Center for Intl Affairs Director		
Signature		Date
Center for Integrative Studies Director		
Signature		Date
Center for Multicultural Engagement Director		
Signature		Date
Center for Civic Engagement and Service Learning Director		
Signature		Date
Curriculum Chair		
Signature		Date
AVP		
Signature		Date