

**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**

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.**

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

Prefix BUS Course# 502 Title **QUANTITATIVE  
METHODS FOR DECISION-MAKING** Units (3)

hours blank per week

### Consent of Instructor Required for Enrollment

**Catalog Description** (Do not use any symbols):

Overview of core quantitative skills for effective managerial decision-making. Topics include statistical principles, regression analysis, forecasting, multi-attribute decision-making, benefit-cost analysis, and spreadsheet modeling of businesses cases. May be offered with an extensive online component.

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Repeatable for  
up to units  
Total  
Completions

Optional  
(Student's  
choice)

**Hegis Code(s)** \_\_\_\_\_  
(Provided by the Dean)

**Proposed**

	Units	Hours Per Unit	Benchmark Enrollment	Grade		Units	Hours Per Unit	Benchmark Enrollment	Graded	CS No. (filled out by Dean)
Lecture	<u>3</u>	<u>1</u>	<u>25</u>	X	Lecture	<u>3</u>	<u>1</u>	<u>25</u>	X	
Seminar		<u>1</u>			Seminar		<u>1</u>			
Lab		<u>3</u>			Lab		<u>3</u>			
Activity		<u>2</u>			Activity		<u>2</u>			
Field Studies					Field Studies					
Indep Study					Indep Study					
Other blank					Other blank					

### 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 students accepted into the MBA program who do not have an undergraduate degree in business. The modern business environment is characterized by a flood of data, and effective managers and decision-makers must possess the skills to translate raw data into coherent business practices and sound business decisions. The course may be offered partially or wholly online.

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

#### NEW

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- Elective for the Major/Minor
- Free Elective

**Submit Program Modification if this course changes your program.**

### 5. 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

1. Describe the types of situations where mathematical modeling and data analysis are beneficial.
2. Distinguish deterministic models from probabilistic models.
3. Employ basic concepts of central tendency and dispersion to analyze the characteristics of a set of

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

#### NEW

1. Describe orally and in writing the types of situations where mathematical modeling and data analysis are beneficial. (1,2)
2. Distinguish deterministic models from probabilistic models. (1,5)
3. Employ basic concepts of central tendency and dispersion to analyze the characteristics of a set

- data.
4. Utilize standard statistical and spreadsheet software to derive and present quantitative analyses.
  5. Employ mathematical and statistical models for the purposes of forecasting and risk management

- of data. (1,5)
4. Utilize standard statistical and spreadsheet software to derive and present quantitative analyses. (1,2,5)
  5. Employ mathematical and statistical models for the purposes of forecasting and risk management. (1,5)

\*Program Learning Goals: 1) Demonstrate high proficiency in critical thinking, oral and written communication, personal ethical conduct and collaboration skills. 2) Demonstrate orally and in writing analytical and integrative skills in making business decisions. 3) Demonstrate an understanding of the global operating environment of business. 4) Produce written innovative and integrative business plans, including plans that adapt to uncertain and unpredictable environments. 5) Demonstrate an understanding of relevant disciplines. 6) Demonstrate leadership skills in a variety of situations and settings

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

**OLD**

- 1) *Probability Concepts*
  - i) Central Tendency
  - ii) Dispersion
- b) *Decision and Utility Theory*
- c) *Mathematical Modeling Concepts*
  - i) Dependence and Interdependence
  - ii) Risk and Uncertainty
  - iii) Simultaneity
  - iv) Linear Programming
- d) *Data Extraction*
- e) *Forecasting and Simulation*
- f) *Applications*
  - i) Inventory Analysis: Deterministic and Probabilistic Models
  - ii) Transportation and Trans-shipment Problems
  - iii) Waiting Line Models

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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**

Anderson, D.R., Sweeney, D.J., and Williams, T.A. (2001). *Quantitative Methods for Business, 8th Ed.* Thompson Learning.  
 Camm, Jeffrey and Evans, James (2000). *Management Science and Decision Technology.* South-Western Thomson Learning.

Markland, Robert and Sweigart, James (1987). *Quantitative Methods: Applications to Managerial Decision Making*. Wiley.  
 Wisniewski, Mik (1997). *Quantitative Methods for Decision Makers, 2nd Ed.* Prentice Hall.

# NEW

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 Wisniewski, Mik (1997). *Quantitative Methods for Decision Makers, 2nd Ed.* Prentice Hall.

## 9. Tenure Track Faculty qualified to teach this course.

Prof. Dennis Muraoka  
 Prof. Paul Rivera

## 10. Requested Effective Date or First Semester offered:

## 11. New Resource Requested: Yes No X 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 checked="" 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 type="checkbox"/> Other
<input type="checkbox"/> Prerequisites/Corequisites	<input type="checkbox"/> Reactivate Course
<input checked="" type="checkbox"/> Catalog description	
<input type="checkbox"/> Mode of Instruction	

### Justification:

Updated Student Learning Objectives (SLO) and aligns SLO with Program Learning Goals (PLG)

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

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 15<sup>th</sup>**.

William Cordeiro

Proposer(s) of Course Modification

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

Date

**Approval Sheet****Course:**  

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		
	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
Dean of Faculty		
	Signature	Date