CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

NEW COURSE PROPOSAL

PROGRAM AREA BUSINESS/MBA

1. **Catalog Description of the Course.** *[Include the course prefix, number, full title, and units. Provide a course narrative including prerequisites and corequisites. If any of the following apply, include in the description: Repeatability (May be repeated to a maximum of ___ units); time distribution (Lecture ___ hours, laboratory ___ hours); non-traditional grading system (Graded CR/NC, ABC/NC). Follow accepted catalog format.]*

   BUS 502. QUANTITATIVE METHODS FOR DECISION-MAKING (3)
   Three hours lecture per week

   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.

2. **Mode of Instruction.**

	Units	**Hours per Unit**	**Benchmark Enrollment**
Lecture	3	1	25
Seminar			
Laboratory			
Activity			

3. **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]*

   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.

   Students who successfully complete BUS 502 will be able to:
   - Describe the types of situations where mathematical modeling and data analysis are beneficial.
   - Distinguish deterministic models from probabilistic models.
   - Employ basic concepts of central tendency and dispersion to analyze the characteristics of a set of data.
   - Utilize standard statistical and spreadsheet software to derive and present quantitative analyses.
   - Employ mathematical and statistical models for the purposes of forecasting and risk management.

4. **Is this a General Education Course** ***NO***

5. Course Content in Outline Form. *[Be as brief as possible, but use as much space as necessary]*

Probability Concepts
- Central Tendency
- Dispersion

Decision and Utility Theory
Mathematical Modeling Concepts
- Dependence and Interdependence
- Risk and Uncertainty
- Simultaneity
- Linear Programming

Data Extraction
Forecasting and Simulation
Applications
- Inventory Analysis:Deterministic and Probabilistic Models
- Transportation and Trans-shipment Problems
- Waiting Line Models

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

Anderson, D.R., Sweeney, D.J., and Williams, T.A. (2001). *Quantitiative 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.

7. List Faculty Qualified to Teach This Course.

Prof. Dennis Muraoka
Prof. Paul Rivera
Prof. Ashish Vaidya

8. Frequency.

a. Projected semesters to be offered: Fall ___x__ Spring ___x__ Summer _____

9. New Resources Required.

None.

10. Consultation.

Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

Paul A. Rivera, PhD — October 30, 2003
Proposer of Course — Date