

NEW COURSE PROPOSAL

PROGRAM AREA

- 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.]*

Math 555 ACTUARIAL SCIENCES (3)

Three hours lecture per week

Prerequisite: Admission to the Computer Science or Mathematics Graduate Program

The course provides a sound grounding in the mathematical, statistical and financial concepts needed for actuarial work, including technical and communication skills. Topics include: probability, statistics, data analysis, mathematical modeling, risk analysis, pension plans, financial economics, and time series. Various software packages are used.

2. Mode of Instruction.

	Units	Hours per Unit	Benchmark Enrollment
Lecture	3	1	24
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 an elective for MS in Applied Mathematics majors

Students will be able to

- discuss the application of advanced mathematical methods in business and economics.
- discuss the nature of statistical inference and time series, and apply them
- analyze data in statistical and graphical terms.
- use a computer-based actuarial 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

- 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]*

- Mathematical Modelling;
- Financial Mathematics;
- Survival Models;
- Life Insurance Mathematics;
- Stochastic Processes;
- Risk Theory;
- Pension Funds;
- Financial Economics;
- Time Series;

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

7. List Faculty Qualified to Teach This Course.

All Mathematics faculty

8. Frequency.

a. Projected semesters to be offered: Fall X Spring X Summer

9. New Resources Required.

a. Computer (data processing), audio visual, broadcasting needs, other equipment

Access to computer labs to use statistical packages

b. Library needs

none

c. Facility/space needs

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.

____ J. Garcia, I. grzegorzczak _____ 10/31/03 _____
Proposer of Course Date

Approvals

Program Coordinator	Date
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GE Committee Chair (If applicable)	Date
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Curriculum Committee Chair	Date
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Dean	Date
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Effective Semester: _____

California State University Channel Islands
New Course Proposal Consultation Sheet

1. Course prefix, number, title, and units: _____ **MATH 555 (3)**

2. Program Area: _____ MATH _____

Recommend Approval

Program Area/Unit	Program/Unit Coordinator	YES	NO (attach objections)	Date
Art				
Business & Economics				
Education				
ESRM				
Humanities				
Liberal Studies				
Mathematics & CS				
Sciences				
Library*				
Information Technology*				

* If needed