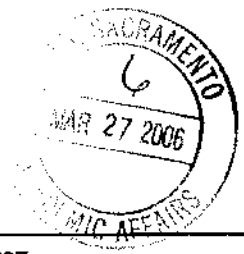


SSIS

Academic Affairs - Course Proposal Form



CALIFORNIA STATE UNIVERSITY, SACRAMENTO

Academic Unit: Economics		Department Chair: Professor Stephen Perez	
Type of Course Proposal: New <input checked="" type="checkbox"/> Change <input type="checkbox"/> Deletion <input type="checkbox"/>		Date: 01/13/2006	
Does this course fulfill a requirement for single-subject or multiple subject credential students? Yes ___ No <input checked="" type="checkbox"/>		For Catalog Copy: Yes <input checked="" type="checkbox"/> No ___	CCE: Yes ___ No <input checked="" type="checkbox"/>
		Semester Effective: Fall <input checked="" type="checkbox"/> Spring ___ 2006	
Prefix & No. ECON 200M	Title: Mathematics for Economists	Units: 3	
Change to:			
Prefix & No.	Title:	Units:	

JUSTIFICATION:

This course is intended to assist new students in the Masters Program in Economics in becoming comfortable with the basic mathematical tools that are being used extensively in our graduate program. This course is designed to accomplish two goals.

1. Ensure that all students acquire an understanding of the fundamental mathematical techniques they are likely to find widely used in economics and econometrics.
2. Develop an understanding of how mathematical methods relate to economic theory through applications.

Mastering these two goals will prove useful in concurrent and later courses (especially ECON 200A and ECON 200B) and in future work and research. It will also provide a solid foundation that will allow graduates to provide useful analytical economic services to an employer. Finally, an understanding of mathematical economics will allow students to keep up with advances in economic science after leaving CSUS, since they will be able to read and comprehend the articles in the leading economics journals.

NEW COURSE DESCRIPTION: (Not to exceed 80 words, and language should conform to catalog copy.)

See <http://www.csus.edu/acaf/univmanual/crspsl.htm> - Guidelines for Catalog Course Description

ECON 200M Mathematics for Economists. Equips students with the mathematical techniques necessary for the study of economics and econometrics at the graduate level. Course covers linear algebra, derivatives, comparative static analysis, optimization, integrals, and differential equations, with specific applications from economic and econometric theory.

Prerequisite: ECON 100A, ECON 100B, Math 26A.

Note: none

Prerequisites: ECON 100A, ECON 100B, MATH 26A

Corequisite: none

CAN (California Articulation Number):

Graded: Letter Credit/No Credit ___ **Instructor Approval? Yes ___ No**

Course Classification: C5 **Title for SIS+ (not more than 25 characters)**
Math for Economists

Cross Listed?
Yes ___ No **If yes, with what course:**

How Many Times Can This Course be Taken for Credit? 1

FOR NEW COURSE PROPOSALS OR SUBSTANTIVE CHANGES ONLY:

Description of the Expected Learning Outcomes: Describe outcomes using the following format: "Students will be able to: 1), 2), etc." See the example at <http://www.csus.edu/acaf/example.htm>

In this course students should develop skills that allow them to:

- 1) Thoroughly understand mathematical techniques such as matrices, derivatives, optimization, integration, etc.
- 2) Competently use the above concepts in problems and applications including comparative static analysis, constrained and unconstrained optimization.
- 3) Apply mathematical methods to analyze economic problems.

****Attach a list of the required/recommended course readings and activities [Note: it is understood that these are updated and modified as needed by the instructor(s).] This attachment should be forwarded only to your Dean's office, not Academic Affairs.**

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre- and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above:

Assessment will be based on 5 (out of six) problem sets, two exams, and a final exam.

As a graduate course that meets once a week, this course is fairly fast-paced and will involve a lot of homework designed to give students plenty of "hands-on experience" with mathematical techniques covered in class. Students will be required to solve almost all exercises in the chapters covered in class.

1. Six homework assignments will be administered and graded (assignment with the lowest score will be dropped). Each homework assignment is worth 10% of the course grade for a total of 50% (after dropping the lowest homework grade). Homework assignments are intended to test students' understanding of mathematical techniques such as matrices, derivatives, optimization, integration (learning objective 1).
2. There will be two midterm exams (each worth 15% of the course grade) and a final exam worth 20% of the course grade. Midterm and final exams are designed to test the extent to which students have mastered the mathematical techniques, including problem solving and application of mathematical concepts to analysis of common economic problems (learning objectives 2 and 3).

For whom is this course being developed?

Majors in the Dept Majors of other Depts ___ Minors in the Dept ___ General Education ___ Other ___

Is this course required in a degree program (major, minor, graduate degree, certificate)? Yes No ___

If yes, identify program(s): Master of Arts Program in Economics

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer facilities, faculty, etc.)? Yes ___ No

If yes, attach a description of resources needed and verify that resources are available.


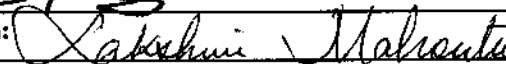
Indicate which department or programs will be affected by the proposed course (if any). NONE

The Department Chair's signature below indicates that affected programs have been sent a copy of this proposal form.

Approvals: If proposed change, new course or deletion is approved, sign and date below. If not approved, forward without signing to the next reviewing authority, and attach an explanatory memorandum to the original copy.

Signatures:

Date

Department Chair: 	2-28-06
College Dean or Associate Dean: 	March 20, 2006
CPSP (for school personnel courses ONLY)	
Director of Curriculum, Assessment & Accreditation (for the Vice President for Academic Affairs)	

Distribution: Academic Affairs (original and two copies) Department Chair and College Dean. A copy of this form should be e-mailed, along with the hard copies, as an attachment to lovinisd@csus.edu by the Dean's office after it is approved at that level.

California State University, Sacramento
Department of Economics
Fall 2006



ECON 200M: MATHEMATICS FOR ECONOMISTS

Instructor: Rossitza Wooster
Office: Tahoe Hall 3011
Phone: 916.278.7078
E-mail: wooster@csus.edu
Web site: <http://www.csus.edu/indiv/w/woosterr>

Class Meetings: TBA
T TBA
Office Hours*
MW TBA
*By Appointment

Syllabus

Prerequisites	ECON 100A, ECON 100B, Math 26A.
Catalogue Description	Equips students with the mathematical techniques necessary for the study of economics and econometrics at the graduate level. Course covers linear algebra, derivatives, comparative static analysis, optimization, integrals, and differential equations, with specific applications from economic and econometric theory.
Learning Objectives	<p>This course is intended to assist new students in the Masters Program in Economics in becoming comfortable with the basic mathematical tools that are being used extensively in our graduate program. This course is designed to accomplish the following learning objectives. Students should develop skills that allow them to:</p> <ol style="list-style-type: none">1) Thoroughly understand mathematical techniques such as matrices, derivatives, optimization, integration, etc.2) Competently use the above concepts in problems and applications including comparative static analysis, constrained and unconstrained optimization.3) Apply mathematical methods to analyze economic problems. <p>Mastering these goals will prove useful in concurrent and later courses (especially ECON 200A and ECON 200B) and in future work and research. It will also provide a solid foundation that will allow graduates to provide useful analytical economic services to an employer. Finally, an understanding of mathematical economics will allow students to keep up with advances in economic science after leaving California State University, Sacramento, since they will be able to read and comprehend the articles in the leading economics journals.</p>
Textbook	<ul style="list-style-type: none">• Alpha C. Chiang, "Fundamental Methods of Mathematical Economics", 4th edition.

Graded Components

As a graduate course that meets once a week, this course is fairly fast-paced and will involve a lot of homework designed to give students plenty of "hands-on experience" with mathematical techniques covered in class. Students will be required to solve almost all exercises in the chapters covered in class.

1. Six homework assignments will be administered and graded (assignment with the lowest score will be dropped). Each homework assignment is worth 10% of the course grade for a total of 50% (after dropping the lowest homework grade). Homework assignments are intended to test students' understanding of mathematical techniques such as matrices, derivatives, optimization, integration (learning objective 1).
2. There will be two midterm exams (each worth 15% of the course grade) and a final exam worth 20% of the course grade. Midterm and final exams are designed to test the extent to which students have mastered the mathematical techniques, including problem solving and application of mathematical concepts to analysis of common economic problems (learning objectives 2 and 3).

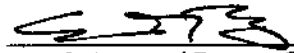
Policies

- The exams cannot be rescheduled or made up, so do not take the course if you cannot take the exams during their scheduled times. The only exceptions to this rule are: (i) documented medical emergencies; and (ii) absence due to active military, police, and/or jury duty (need letter from the appropriate official).
 - Improving your grade through "extra work" is not an option in this class! In addition, an Incomplete (letter grade "I") or a Withdrawal (letter grade "W") is not to be viewed as a substitute for an "F".
 - Students with documented learning disabilities or special needs, must contact both the Testing Center and the course instructor at least a week in advance of scheduled exams times.
 - Class attendance is mandatory. If you miss class, it is your responsibility to find out what you missed, get notes from peers, etc.
-

Tentative Schedule		
Week	Topic	Reading Assignment
Week 1	The Nature of Mathematical Economics	Chapter 1
Week 2	Economic Models <i>Due: Homework Assignment No. 1</i>	Chapter 2
Week 3	Equilibrium Analysis in Economics	Chapter 3
Week 4	Linear Models and Matrix Algebra <i>Due: Homework Assignment No. 2</i>	Chapter 4
Week 5	Linear Models and Matrix Algebra (continued) Midterm Exam No. 1	Chapter 5
Week 6	Comparative Statics and the Concept of the Derivative	Chapter 6
Week 7	Rules of Differentiation and their use in Comparative Statics <i>Due: Homework Assignment No. 3</i>	Chapter 7
Week 8	Comparative-Static Analysis of General-Function Models	Chapter 8
Week 9	Optimization: A Special Variety of Equilibrium Analysis <i>Due: Homework Assignment No. 4</i>	Chapter 9
Week 10	Optimization: A Special Variety of Equilibrium Analysis (continued) Midterm Exam No. 2	Chapter 9
Week 11	Exponential and Logarithmic Functions	Chapter 10
Week 12	The Case of More Than One Choice Variable <i>Due: Homework Assignment No. 5</i>	Chapter 11
Week 13	Optimization with Equality Constraints	Chapter 12
Week 14	Further Topics in Optimization: Envelope Theorem and Duality	Chapter 13
Week 15	Economic Analysis and Integral Calculus <i>Due: Homework Assignment No. 6</i>	Chapter 14
	Final Exam	

College of Social Sciences and Interdisciplinary Studies
Curriculum Committee
COURSE APPROVAL INFORMATION



Department:	<u>Economics</u>	Effective Date:	<u>Fall 2006</u>
Proposed Course Name:	<u>Mathematics for Economists</u>		
Proposed Course Number:	<u>ECON 200M</u>	Units of Credit:	<u>3</u>
Has the course been offered before? <u>No</u> If so, under what number? _____			
Expected enrollment per section: <u>15</u>		Total expected enrollment per semester: <u>15</u>	
Department Chair Approval: 			
(See New Course Development & Approval Process Guidelines as found on the SSIS Home Page)			

1. What is the method of presentation selected by the department for this course?
 Lecture
 Seminar
 Activities
 Other, please explain. _____
 2. Will this course be proposed for General Education?
 Yes If yes, what area? _____
 No
Race / Ethnicity?
 Yes
 No
Advanced Study?
 Yes
 No
 3. Does this course require a prerequisite?
 Yes If so, what and why? ECON 100A, ECON 100B, MATH 26A.
These prerequisites ensure that students in the course are prepared for the rigorous analysis of the material at the graduate level.
 No If not, why not? _____
 4. Is the course to be taught in a multiple section mode?
 Yes If yes, how many sections do you expect to schedule per semester? _____
 No
 5. Who is/are the probable instructor(s) of the course: Prof. Rossitza Wooster
 6. Indicate author of attached syllabus: Prof. Rossitza Wooster
- Please answer questions 7 through 13 on the following page.*

02/28/06

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Course Approval Form pg.2

7. Briefly describe the process by which this course was approved at the department(s) / program(s) level.
This course was proposed by the department curriculum committee and approved by the department faculty to introduce the appropriate level of mathematical skills in the graduate program .

8. How does this course fit into your overall curriculum and into your department's most recent Plan submitted to the Dean?
The course is essential for a rigorous Master of Economics Program. It is recommended that students take this course prior to taking the core courses in the program, ECON 200A and ECON 200B. Introduction of this course will help reduce attrition in the graduate program due to insufficient mathematical skills.

9. Which of the learning outcomes of your program does this course address?
This course addresses each of the learning objectives brought forth in the Department Assessment Plan with special attention to Economics Subject Matter, Analytic Thought, and Research Ability.

10. Faculty presenting a new course proposal are responsible for consulting departments in this and other colleges. Please identify the department and name the faculty consultants you contacted. Please summarize the outcome of this consultation. Failure to engage in consultation may result in the new course proposal being tabled.
(i) Chair, Department of Mathematics and Statistics (email sent 2/24/06).

11. What programs and majors in SSIS and/or other colleges does the proposed course complement?
This course may be of interest for students completing a master's degree in Public Policy and Administration.

12. If different amounts of credit will be available for the proposed course, indicate differences in course requirements for earning the units.
Not applicable.

13. If the course can be taken more than one time for credit, what is the justification for the repetition?
How will the two (or more) experiences differ?
Not applicable.

Please attach a course syllabus containing the following information:

- a. Course Content and Objectives
- b. Required Readings / Materials
- c. Course Requirements & Methods of Evaluations
- d. Structured Outline of Topics and Associated Assignments