

Math Methods for Economics

ECO5405 Summer/Fall 2009

DEPARTMENT of ECONOMICS
FLORIDA STATE UNIVERSITY

SYLLABUS

Lectures:	MTWRF 10am-12pm (Rm. Bel 116)	Instructor:	Farasat A.S. Bokhari
Internet:	http://mailer.fsu.edu/~fbokhari/eco5405	Email:	fbokhari@fsu.edu
Office:	Bellamy 284	Tel:	(850) 644-7098
Hours:	MW 3-4pm	Fax:	(850) 644-4535

Recommended Texts.

- Rudin, W. *Principles of Mathematical Analysis* 3rd. Ed., McGraw-Hill, 1976.
- Ross, K.A. *Elementary Analysis: The Theory of Calculus* UTM, Springer-Verlag, 1990.
- Dixit, A.K. *Optimization in Economic Theory* 2nd Ed. Oxford Univ. Press, 1990.
- Simon, C.P & Blume, L. *Mathematics for Economists* Norton, 1994.
- Chiang, A.C., *Fundamental Methods of Mathematical Economics* 3rd. Ed., McGraw-Hill, 1984.

Course Description. This course is aimed at first year PhD economics students and is intended to introduce the essential mathematical methods that you will encounter in the remaining courses in your program. It is assumed that you are already familiar with basic calculus and have had an intermediate microeconomics course at the undergraduate level. The main topics of this course will include real analysis, optimization theory and nonlinear programming with an emphasis on how they relate to economic theory. While the purpose is to use these tools in economic applications, there are some economies of scale to simply introducing a mathematical concept in the raw and then figuring out where it is used in the economics analysis.

Outline. There is no primary text for this course and I will teach from my own notes. Several recommended text books are given above and my notes are based on selected materials from these texts. We will spend approximately 1/2 of the course on real analysis, and optimization each. Since the material on real analysis is based on several texts, I will periodically post an outline of my lectures on the the course website (URL given above). These outlines – they are just outlines and not complete lecture notes – are not substitutes for your own notes taken during class. For the second part, which covers optimization, I will mostly present material from Simon and Blume and thus no lecture outlines for this part will be posted since we will follow the text book pretty closely.

Grading. Your grade will be determined from two in class exams (50 % each). There will be no make-up exams unless a verifiable emergency arises and there will be no opportunities for extra credit work. Problem sets will be assigned periodically but will not be collected or graded. Your are encouraged to collaborate with your classmates on the problem sets. The problem sets will be posted on the course website. Exams will consist of problems from the assignments as well as some extensions.

Review Session. In addition the regular lectures, there will be an additional 1 hr problem solving/review session (everyday) lead by the TA.

Academic Honesty. The Academic Honor system at Florida State is based on the premise that each student has the responsibility to: (i) uphold the highest standards of academic integrity, (ii) refuse

to tolerate violations of academic integrity, and (iii) foster a higher sense of integrity and social responsibility. Deviation from this will be considered academic dishonesty and will be dealt with according to the department and university protocol. Please refer to the FSU Academic Honor Code at (<http://www.fsu.edu/~union/honor.htm>).

American Disabilities Act Statement. Students with disabilities needing academic accommodations should: (1) register with and provide documentation to the Student Disability Resource Center (SDRC); (2) bring a letter to the instructor from SDRC indicating that you need academic accommodations. This should be done within the first week of class.

Exam Dates. TBA