OBJECTIVES: The purpose of this course is to provide a comprehensive exposition of basic mathematical instruments that are commonly used in all fields in economics - microeconomics, macroeconomics, econometrics, international trade and finance, public finance, money and banking, resource and environmental economics, urban and regional economics, labor and human resources, and industrial organization. Methods of Static Analysis, Comparative Static Analysis, Optimization will be introduced. Major emphasis is on illustrating how these tools can be used to analyze theoretical and practical economic problems which arise in the behaviors of households, firms, and markets. To assure homogeneity of the student background, the prerequisites of this course will be enforced.

There are two lectures per week. The second lecture may be devoted to problem solving exercises and quizzes. Students are required to attend all lectures. They are expected to read the assigned reading materials on chapters prior to the lecture and complete their homework assignments on time.

PREREQUISITES: We assume that the students have completed the following textbook: Mizrahi, Abe, and M. Sullivan, Mathematics for Business and Social Sciences, An Applied Approach, 4th ed., John Wiley and Sons. This book is used in Math 1050-1 to Math 1100 as specified at the beginning of this syllabus. A review text will be given on the second session of the class.

HOMEWORK and QUIZ: Exercises from chapters will be announced in the classes. Each homework assignment will be graded on a 10-point scale. Credit will be given only to the homework that is handed-in before or on the due date and time. Occasionally, an exercise or quiz will be given in the class. The quiz will be graded on the basis of 10 points.

SEMESTER GRADES: The semester grade will consist of 3 parts - Exam scores (50% for mid-term exams, 35% for the final), Homework scores (10%), and quizzes (5%). Probable cutoff points are in the vicinity of 90% (A-), 80% (B-), 70% (C-), 60% (D-), and some curving may be used. Graduates and undergraduates will be graded separately.

To Graduate Students (taking Econ. 5808). In addition to regular classwork, the final exam will include the second part of chapter 8, the entire contents of chapter 10 and chapter 12. Extra classes may be held for these parts if desired. (These parts will not apply to the undergraduate students).

NOTES:
1. Please attend the classes regularly, I expect every student to participate in all classes.
2. Please prepare for the tests long before the test dates.
3. If you are going to miss or have missed the final exam, hand in an explanatory statement and documentation to the instructor. No credits will be given to unexcused absences in examinations.
4. Please come (or call) to talk with the instructor about any problems related to this course.
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<td>Inverse Matrix and Cramer’s Rule (5.2, 5.4-5.6)</td>
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<td>Ch. 12</td>
<td>Homogeneous Functions, Cost Minimizations, and Elasticity of Substitution (12.6, 12.7)</td>
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</table>

FINAL EXAM

Check your final exam schedule during the first week of the semester. If you are concerned about the possibility of taking three or more final exams on the same day, please make any desired schedule adjustment during the drop-add period.

The following Examination Rules will be strictly enforced.

1. Spread the chairs - you should not be too close to each other.
2. Put books in front under the blackboard, out of reach.
3. Use only the sheets of paper distributed to you in class. Do not use your own paper for tests and calculations.
4. Hand in all of the test papers and materials you have used in the test. Write "scrap" at the upper right corner of the paper if it does not contain your answers.
5. Make sure to number the questions clearly and write your name on each page of your test sheets.
6. No students are allowed to leave the classroom during the test. Please go to the washroom before the test starts.
References for Econ. 4808/5808

The following references are available in Norlin Library:

Allen, R.G.D., *Mathematical Analysis for Economists*, St. Martins Press, 1938. Paperback edition available. This is a classic work with which every economist, whether or not he is interested in Mathematical Economics, must be acquainted. A must for graduate students.


Weber, J. E., *Mathematical Analysis - Business and Economics*


There are many other textbooks on mathematics for economists. Most of them are survey type with more emphasis in techniques than economic applications. The following texts emphasize applications.

Textbooks on Micro and Macroeconomics which use more Mathematics


Textbooks on Calculus Recommended

Apostol, T.M., (1962, 67) *Calculus, I, II*, Braisdel. (An introductory to intermediate text, good examples.)

Introduction to Mathematical Economics

Homework for Econ 4808/5808
Spring 1993, Frank Hsiao

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