**Econ. 480/580**

**INTRODUCTION TO MATHEMATICAL ECONOMICS**

**Prof. Frank Hsiao**

**MTWTThF 10:50-12:20**


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<td>June 11</td>
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<td>Economic Models and Static Problems (3.1-3.3, 3.5)</td>
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<td>June 12</td>
<td>Chap. 4</td>
<td>Matrix Algebra (4.1, 4.2, 4.4-4.6)</td>
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<td>June 14</td>
<td>Chap. 5</td>
<td>Inverse Matrix and Cramer's Rule (5.2, 5.4-5.6)</td>
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<td>June 18</td>
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<td>Input-Output Models (5.7)</td>
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<td>June 20</td>
<td>Chap. 7</td>
<td>Marginal Function and Average Function (7.1-7.2)</td>
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<td>June 21</td>
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<td>Golden Rules of Differentiation and their use (7.3-7.5)</td>
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<td>June 22</td>
<td>Chap. 8</td>
<td>Total Differential and Elasticity of Demand (8.1-8.4)</td>
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<td>June 25 x2 (M)</td>
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<td>The First Test (Chapters 3, 5, 7) - 30%</td>
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<td>Comparative Static Analysis of the IS-LM Model (8.6)</td>
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<td>Chap. 10</td>
<td>Growth Equations and Growth Rates (10.1-10.3)</td>
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<td>July 1</td>
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<td>Total Differential and Growth Rates (10.4-10.7)</td>
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<td>July 2 x2</td>
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<td>July 3 (Tu)</td>
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<td>(Chapters 8, 9, 10) - 30%</td>
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<td>Price Discrimination, Isoquants (11.4, 11.5)</td>
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<td>July 9</td>
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<td>Constrained Optimization (12.1, 12.2, 12.4)</td>
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<td>July 10 x2</td>
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<td>Homogeneous Functions, Cost Minimizations, and Elasticity</td>
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<td>of Substitution (12.5, 12.6)</td>
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<td>July 11 (W)</td>
<td>FINAL EXAM</td>
<td>(Chap. 3 - 10, Chap. 11, 12) - 40%</td>
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</table>

**Notes:**

1. Test dates are firm. Please prepare long before the test.
2. If you are going to miss, or have missed the test, hand in a written statement to the instructor.
3. Homework - handed in on time: 10 points
   - late before grading: 7 points
   - late after grading: 5 points
4. 5% of total homework grades will be added to the total grades.
5. PLEASE COME IN AND TALK WITH YOUR INSTRUCTOR ABOUT ANY PROBLEM RELATED TO THE COURSE.

**Office:** Econ. 103
**Office Hours:** 10:00-10:50
**Office Telephone:** 492-7908
References for Econ. 480/580, Section 1

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


T. Yamane: Mathematics for Economists: An Elementary Survey, Prentice Hall, 1962. Good exposition of basic quantitative methods (Differentiation, matrix, statistics). Fewer economic applications. 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.


T.F. Dernburg and J. D. Dernburg, Macroeconomic Analysis, An Introduction to Comparative Statics and Dynamics, Addison-Wesley, 1969. For the first year graduate students.

Textbooks on Calculus Recommended

G.B. Thomas: Calculus and Analytic Geometry, Addison-Wesley.

T.M. Apostol: Calculus Vol. I and II.