Mathematical Economics
Econ 4808
Molly Lipscomb
Summer 2006

Molly Lipscomb
Office: Economics 14
Office Hours: MTWRF 2:30-3:30

Required Text: *Fundamental Methods of Mathematical Economics*, Alpha C. Chiang and Kevin Wainwright.

Grading:

The best way to learn math is to practice. It is also important that you do not allow yourself to get behind. As a result, we will have more homework sets and tests than in most classes so that you have plenty of opportunities to practice and to get feedback on your work.

There will be a homework set due at the beginning of class every Wednesday and an exam every Friday. The lowest homework set and the lowest test will be thrown out when your final grade is computed. No make up exams or late homework assignments will be accepted.

The final grade will be computed as follows:
80% Exams (equally weighted)
20% Homework (equally weighted)

Course Outline:

June 5: Sets, relations, and functions. Read Chiang chapter 2.
June 6: Static partial equilibrium analysis. Read Chiang chapter 3.
June 7: Proofs and logic. Read "Proofs and Logic," notes on web.
June 8: Utility and preference relations.
June 9: Exam 1.

June 12: Matrix Algebra Introduction. Read Chiang chapter 4, skip 4.7.
June 13: Determinants and Matrix Inversion. Read Chiang chapter 5.
June 14: Production Sets, input-output models.
June 15: Matrix rank, eigenvalues, and quadratic forms.
June 16: Exam 2.

June 19: Sequences and continuity of functions.
June 20: Limits and Derivatives. Read chapter 6.
June 21: Rules of Differentiation. Read chapter 7.

June 22: Comparative Static Analysis and Implicit functions. Read chapter 8.
June 23: Exam 3.

June 26: Exponential and Logarithmic functions. Read Chiang chapter 10.
June 27: Convexity and Concavity. Read Chiang chapter 9.
June 28: Unconstrained Optimization. Read Chiang chapter 9.
June 29: Applications of Unconstrained Optimization.
Mathematica Extra Credit Assignment
June 30: Exam 4.

July 3: Maximization of functions of many variables: Read Chiang chapter 11.
July 4: Happy Independence Day! No class.
July 5: Maximization with equality constraints. Read Chiang chapter 12.
July 6: Applications.
July 7: Exam 5.