Introduction to the major deterministic (non-probabilistic) mathematical tools of economic analysis and applied studies. Prerequisites: Math 107-108 or equivalent: algebra, introduction to linear equations and matrices, and differential calculus of functions of 1 variable.

Class procedures: reading in the text, *Fundamental Methods of Mathematical Economics*, by Chiang, 2nd edition, and homework problems will be assigned each class period. It is highly advisable not to get behind in classwork. Homework will not be graded, but will be discussed along with general student questions in a weekly 1-hour workshop (time to be decided). A 30-minute quiz will be given every second week, and a mid-term and final will be given (weighted 1/3 each). Two quiz grades may be dropped but no make-ups will be given. Excused absence from the mid-term must receive instructor’s prior approval, except in case of illness when a written doctor’s statement of incapacity is required. No excuses from the final. A non-excused absence from an examination results in failure on that examination.

The order of topics will be approximately as follows:

1. Economic models and the nature of mathematical economics
   Chapters 1, 2, 3
2. Linear models and matrix algebra
   Chapters 4, 5
3. Linear programming
   Chapters 18, 19
4. Basic game theory
   Chapter 21
5. Comparative static analysis and differential calculus
   Chapters 6, 7, 8
6. Non-linear optimization models
   Chapters 9, 10, 11, 12 & 20
7. Dynamic models using difference equations
   Chapter 16