

# Economics 331

## Mathematical Economics

Mr. Moody

---

**Text: Chiang and Wainwright, *Fundamental Methods of Mathematical Economics (Fourth Edition)***

All readings, except Chiang and Wainwright are available on Blackboard in the Course Documents section. Readings from earlier editions of Chiang are also available in Blackboard.

### **Linear Algebra and General Equilibrium**

Chiang and Wainwright, Chapters 1-5

Applied general equilibrium (Lenotief input-output analysis)

### **Linear Programming and Duality**

Chiang Chapters 19,20 (Blackboard)

Bassi, L.J. "The Diet Problem Revisited," *The American Economist*, 20, Fall 1976, 35-39

### **Game Theory (two person zero sum games)**

Chiang Game Theory (Blackboard)

### **Comparative Static Analysis**

Chiang and Wainwright, Chapters 6-8

### **Macroeconomics**

Allen, R.G.D. *Macro-Economic Theory*, ch. 7

### **Optimization**

Chiang and Wainwright, Ch. 9-11.

### **Constrained Optimization**

Chiang and Wainwright, Ch. 12

### **Nonlinear Programming**

Chiang and Wainwright, Ch. 13

Baumol, W.J. *Economic Theory and Operations Analysis*. 4th ed., 1977, Ch. 7

Kuhn, "Duality in Mathematical Programming"

Takayama, A. "Behavior of the Firm under Regulatory Constraint." *American Economic Review* (1969) 255-260.

## **Applications**

The Envelope Theorem (Chiang and Wainwright Ch 13)

Mathematical History

The Oil Crisis and Entitlements