Aims

This course covers microeconomic theory at an advanced level that falls between the 2nd year ('intermediate') and postgraduate stages. The course begins with a review of linear programming and a reexamination of the marginal productivity property of factor prices. After considering concave production functions and diminishing returns, we use linear programming to introduce a more abstract model of technology and the firm. The approach we take to consumer theory will rely on axioms on preferences rather than taking utility functions or indifference curves as starting points. The course then fuses the analysis of consumer and producer behavior in the general equilibrium model. We conclude with the welfare theorems of general equilibrium theory and the economics of uncertainty. We will spend the time necessary to teach the mathematics needed for a proper understanding of the theoretical topics considered.

Course Delivery

The course will be delivered through a two-hour lecture and a one-hour seminar to go over problem sets.

I will be available for consultation during my office hours. Please contact me if these times do not work for you.

Assessment

A final examination contributes 85% of the final mark and is taken during the Summer term. Problem sets will be handed out regularly. Working on the problems is the key to doing well in the course. Most of the problems will be discussed in seminars but some problems will not be. Solutions to two of these problems must be submitted as coursework (date to be announced). They will be marked and will contribute 15% of the final mark.

Reading

Unfortunately most existing textbooks are pitched at levels either too elementary or too mathematical for this course. The best compromise I can find is the text below, which is available in the library.

Geoffrey Jehle and Philip Reny, *Advanced Microeconomic Theory*, Addison Wesley
The next hardest textbook is Bryan Ellickson’s *Competitive Equilibrium* (Cambridge University Press). The next easiest is Hal Varian’s *Intermediate Microeconomics* (Norton), both in the library.

Given the limitations of the textbooks, I will rely extensively on lecture notes.

**Timetable**

**Topic 1:** Review of linear programming and marginal productivity.

Lecture notes. A review of linear programming (with an application to game theory depending on demand) and a reexamination of the marginal productivity property of prices.

**Topic 2:** Concavity and diminishing returns.

Lectures notes. Diminishing returns in production and concave programming.

**Topic 3:** Activity analysis and the theory of the firm


**Topic 4:** Preferences, utility, and demand

Jehle and Reny, chapter 1. Preference relations and their relationship to utility and demand.

**Topic 5:** General equilibrium with exchange

Jehle and Reny, chapters 5.1 and 5.2. The theory of the simultaneous interaction of markets.

**Topic 6:** The welfare theorems of general equilibrium theory

Jehle and Reny, chapter 5.2. Pareto optimality as a welfare criterion and its relationship to market equilibria.

**Topic 7:** Economics of uncertainty

Lecture notes. The disadvantages of risky allocations and the advantages of risky prices and production sets.