THE OHIO STATE UNIVERSITY
City and Regional Planning

City and Regional Planning 781 — Spatial Models in Urban Planning

Credits: 4 hours
Sequence No.: 2980
Meeting: 190 Knowlton Hall
Time: Tuesday, Thursday 1:30–3:30 p.m.

Midterm Examination: Thursday April 28, during class. Bring a calculator.

Instructor’s Office: 296 Knowlton Hall
Office Hours: Tuesday, Thursday 3:30–4:30 pm or by appointment
E-mail: viton.1@osu.edu

Course Description

This course will introduce you to microeconomic approaches to urban planning problems. Throughout the course, the emphasis will be on developing your understanding of basic economic terms and reasoning; and on the application of these to problem-solving and policy analysis in urban planning.

Evaluation

There will be a closed-book midterm examination given in class. Bring a calculator. This will count for 30% of your final grade. The remaining 70% of your grade will be based on a closed-book final examination at the regularly scheduled time.

Both the midterm and the final examinations will involve the solution to problems: in effect, applications of what we shall be talking about in class. To give you some idea of what you can expect, I have made copies of problems and answers from previous years available in the KSA library. (These are also available online: see below under Texts). I strongly advise you to attempt the problems on your own and then compare your answers with mine: it is extremely easy to convince yourself that you’ve completely understood everything in lectures, only to find when you’re confronted with a problem in an examination, that you really don’t see what to do with the lecture knowledge. Note that the distributed problems were meant to be solved over the course of a week: the examination problems will obviously not be so difficult or time-consuming. Also, some of the problems were meant to illustrate how you could use data and statistical methods to give empirical content to the concepts. Again, this was because the problems were to be solved over the course of a week: you will not be expected to compute regression lines in any examination.
The course website (see below) also has copies of last year’s exams, with answers.

Course Structure

In order to focus more on the applications of economic analysis to planning concerns I will devote a few intensive sessions to a review of the basic concepts, and then proceed to use those concepts to think about planning and public-sector problems. You are responsible for studying the basic material in a textbook. The examinations will not be restricted to material covered in class. The intensive sessions are identified in the reading list as “Review” sections, and contain a check-list of the basic concepts with which you are expected to become familiar. You are strongly advised to begin working on this material before the reviews, which will go very quickly.

Texts

I have not ordered a text for the course: most of the material we shall be discussing is covered in any good microeconomics text (see below). I shall, however, make available selected chapters from two books which I particularly like. These are Microeconomics by Steven Call and William Holahan, and Price Theory by David D. Friedman. The two are meant to be complements, and not substitutes: Call and Holahan is better on the analytical details, while Friedman is stronger on the intuition behind the results. I urge you to read both.

Remember that the readings cover — and you are responsible for — substantially more than is covered in the lectures. Note that neither book covers spatial economics: for this material you will need to rely on your class notes.

Other Books

With the exception of the spatial material, the topics we shall be considering are covered in many texts on microeconomics (“price theory”): here is a selection. Note that there may be more recent editions of some of the books: these are just the editions I happened to have handy. Any of these would be a substitute for Call/Holahan; less so for Friedman, which is a somewhat idiosyncratic book.


More problems If you’d like to practice on more problems than I’ve provided, you might take a look at the Schaum’s Outline book Intermediate Microeconomics; this is probably available in the bookstore.
More advanced books The following texts also cover the material, but are more advanced in their treatment and they may be incomprehensible if you’re not up on math at least through second-year calculus.


Spatial economics There is no really good elementary book on spatial economics, so for these sections of the course you will have to rely on lectures.

Basic urban and regional economics Here are some books specifically devoted to urban and regional economics. They should be used in conjunction with a basic microeconomics text.


E. S. Mills. *Urban Economics*. Scott, Foresman, Glenview, IL, 1972


Advanced urban and regional economics (If you’re planning to do research in this area, I particularly recommend Fujita’s 1989 book):


Internet

There is a small web site for the course at

http://facweb.knowlton.ohio-state.edu/pviton/courses2/crp781

I will place copies of class handouts there, generally in PDF format. In addition, there is a restricted website for KSA students only at:

http://facweb.knowlton.ohio-state.edu/pviton/courses/crp781

(This differs from the previous one in just one character: the “2” towards the end). You will need your KSA login name and password to access this site. **KSA students:** you can access this site by providing your KSA login name and password when it is requested of you. (If your login does not work, try prefacing your login name with knowlton\: thus, eg. knowlton\jdoe). **Non-KSA Students:** we will provide you with temporary access (a temporary login name and password) to the KSA network, valid for this quarter only. An application form will be distributed in class; when it is filled out, the KSA IT staff will send you details via email. If anyone has problems accessing the site, please consult the IT staff on the 4th floor of Knowlton Hall; if that does not help, ask me.

**Email:** I filter spam very aggressively, and if anything looks like spam according to my system it can get deleted automatically before I see it. To protect yourself from this (as much as possible) you should include “CRP” somewhere in the subject line of any email that you send me. I usually answer email within one weekday of receiving it, so if you’re expecting an answer and don’t get one, ask me after class if I got the mail in the first place.

**Academic Misconduct**

OSU expects that all students will understand and abide by the following standards relating to academic misconduct. In particular, solutions to any problem sets and exams should be each student’s own independent work. Any deviation from this requirement constitutes an act of academic misconduct and will be taken extremely seriously.

OSU defines academic misconduct “as any act that undermines the academic integrity of the University or subverts the educational process. It includes plagiarism and dishonest practices associated with examinations as well as any other form of misconduct associated with academic work or grading. Plagiarism is the act of taking ideas, writings, or drawings of another and offering them as one’s own. Plagiarism may be copying of someone else’s work, word-for-word, in part or in the whole without acknowledgment. Other forms of plagiarism involve paraphrasing the structure and language of another person’s work by changing the order or omitting sentences, or writing based strictly on the ideas of another.”
Standards of Behavior

The College of Engineering has requested that all syllabi carry the following statement about the standard of conduct expected of all students enrolled in its courses:

**Professional Conduct**

Students are expected to conduct themselves in a professional manner and to abide by the provisions in the Code of Student Conduct. Students should appreciate diversity, and they should conduct themselves professionally with members of the same or opposite gender and/or from different ethnicities and cultures.

Students should represent themselves in a professional manner in forums that have public access. This includes information posted on social networking sites such as Facebook. Information on these pages is often screened by potential employers, and unprofessional material can have a negative impact on job or graduate school prospects.

Any forms of sexual harassment or intimidation will not be tolerated. The University’s Code of Student Conduct and Sexual Harassment Policy are available on the OSU web page. Sexual harassment includes inappropriate behavior among two or more students; between students and faculty; and among faculty. The actions can take place in physical, verbal, or written forms. When a complaint is received, the situation will be investigated by the academic department and possibly by the police even if the harassment was done anonymously or possibly as a jest. Being found guilty of harassment, even if it was nominally done in jest, can be professionally damaging.
COURSE OUTLINE

1 Introduction

Spatial price equilibrium; description of an economy.

RECOMMENDED READING: Friedman, Chs. 1, 2.

2 Review: Theory of Individual Behavior

This section of the course will briefly review the basic microeconomics of individual choice. You are responsible for developing an thorough understanding of the basic concepts through a textbook and through the problem sets.

RECOMMENDED READING: Call and Holahan, Chs. 3.1 - 3.5; 3.8, 4.2a, 4.2d. Friedman, Chs. 3, 4.

CHECK-LIST OF IMPORTANT CONCEPTS IN CONSUMER THEORY: preferences utility function indifference curve price-taking behavior budget constraint marginal rate of substitution optimal choice demand function price and income elasticities shifted demand function and movement along a demand function normal, Giffen and inferior goods.

3 Elementary Theory of Urban Land Rents

Urban spatial structure; closed and open economies; transportation; bid-rent curves; 1- class and 2-class economies.

READING: Class notes.

4 Review: Theory of Production and Cost

This section of the course will briefly review the basic microeconomics of production and cost. You are responsible for developing an thorough understanding of the basic concepts through a textbook and through the problem sets.

RECOMMENDED READING: Call and Holahan Chs 6.1 - 6.7, 6.10, 6.11, 7.1 - 7.12, 7.15. Friedman, Chs. 5, 9.

CHECK-LIST OF IMPORTANT CONCEPTS IN PRODUCTION: technology (production function) isoquant input substitution marginal product returns to scale factor prices and iso-cost line cost-minimizing input demands cost curves: total cost, average cost, marginal cost fixed and variable costs; short-run and long-run costs and returns to scale.
5 Review: Theory of the Competitive and Monopolistic Firms

This section of the course will briefly review the basic microeconomics of output determination by the firm. You are responsible for developing an thorough understanding of the basic concepts through a textbook and through the problem sets.

RECOMMENDED READING: Call and Holahan, Chs. 8.1 - 8.7, 8.11, 9.1 - 9.5. Friedman, Ch. 10.

CHECK-LIST OF IMPORTANT CONCEPTS IN FIRM BEHAVIOR: price-taking behavior profit maximization marginal revenue function under competition and monopoly supply function average revenue function determination of optimal output and price.

6 Elementary Theory of The Firm in Space

Spatial price equilibrium again; The Weber problem; Hotelling models; importance of transportation; the spatial monopolist.

READING: Class notes.

7 Welfare Economics

Competitive equilibrium; Pareto Optimality; first and second theorems of welfare economics; connection with equity concerns.

READING: Class notes, Friedman, Ch. 14, 15.

8 The Problem of Increasing Returns

Why certain technologies imply that we can’t rely on the market to produce the right amount of some goods; how to regulate a natural monopoly (Ramsey pricing).

READING: Class notes.

9 Market Failure: Joint Products and Externalities

Why the presence of externalities implies that the market can’t be relied on for optimality. Externalities in urban contexts; economic justification of zoning – sometimes; Coase theorem and legal rights.

READING: Call and Holahan, Chs 15.1 - 15.3, 15.6 - 15.7. Friedman, Ch. 17.

SUPPLEMENTARY READING: There is a marvellous book by David Friedman called “Law’s Order” which contains an extensive application of microeconomics to law and legal concepts. Very strongly recommended.
10 Market Failure: The Problem of Public Goods

Non-excludability and the problems it causes. Financing the provision of public goods.

READING: Call and Holahan Chs. 15.4 - 15.5. Friedman, Ch. 17