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**City and Regional Planning 793J / 881 — Foundations of Spatial Models in Planning**

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Credits: 3 – 5 (C&RP 793) 5 (C&RP 881)  
Sequence No.: 05180–5 (C&RP 793J) 05194–5 (C&RP 881)  
Meeting: 269 Knowlton Hall  
Time: Tuesday 10:30 – 12:30 p.m. (tentative)

Midterm Examination: None  
Final Examination: See below

Instructor’s Office: 296 Knowlton Hall  
Office Hours: Monday, Wednesday 2:30–4:00, or by appointment.  
E-mail: [viton.1@osu.edu](mailto:viton.1@osu.edu)

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**Important:** see below under Credit Hours and Sign-Up for your options here.

**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.

**Web site:** I have established a small web site for the course: its address is <http://facweb.knowlton.ohio-state.edu/pviton/courses2/crp881/>

You may want to check in there every so often to see if anything’s been added. My plan is to place copies of all course materials there, but I’m not sure if that will work out.

## **COURSE DESCRIPTION**

This is an advanced add-on to C&RP 781, stressing the mathematical techniques needed to begin reading the technical research literature in spatial and non-spatial microeconomics. Although it is not required, if you have not had a microeconomics course equivalent to 781 (or better) then I strongly recommend that you also sign up for 781. The reason is that in 881 we shall be concentrating on *technique*, whereas in 781 we concentrate on developing a more intuitive feel for the underlying economics.

## PREREQUISITES

Second year calculus, including partial derivatives; and some basic matrix algebra. We will not be using multiple integration.

## CREDIT HOURS AND SIGN-UP

You may sign up for this course in two ways:

- You may sign up for C&RP 881. This is a 5-credit-hours course, and is letter-graded. If you sign up for 881, you must do the problem sets *and you must take an in-class Final Examination*. Your letter grade will be based 40% on the problem sets and 60% on the Final Exam.
- You may sign up for C&RP 793 for between 3 and 5 credit hours. This course is graded satisfactory/unsatisfactory. You will receive a grade of “satisfactory” if you make a good-faith attempt to answer all the problems in the problem sets.

I think you may get more out of the course if you sign up for the 793 version, which does not impose the added pressure of an in-class final exam. But that is up to you. Note that until this Friday you can change your status via the Web: after that you need to get forms signed.

## TEXTS

There is no official text for the course, but here are some strongly recommended books for your library.

- E. Silberberg, *The Structure of Economics*, McGraw-Hill, New York, 1978. This is the best coverage I know of for basic comparative statics derivations, which is what we shall be concentrating on in 881. The Business School library has a recent edition of this book. I have a photocopy of the first edition which I have placed in the 881 Oblique File in the KSA Library. For our purposes, there is not much to choose as between the first and the more recent edition.
- H. R. Varian, *Microeconomic Analysis*, W.W. Norton, New York, 1984. This is one of the two standard texts in the field: it has a broader coverage than *Silberberg*, but less detail too. Either the first or second edition is fine (the second is slightly better).
- A. Mas-Colell, M. D. Whinston, and J. R. Green, *Microeconomic Theory*, Oxford University Press, New York, NY, 1995. This is the second standard text. It covers much more material than either of the other two books, and lots more than we shall cover in 881. But it is well worth having on your shelves.

For spatial microeconomics, I strongly recommend

M. Fujita, *Urban Economic Theory*, Cambridge University Press, Cambridge, 1989.

If you are interested in what might be called “public economics” — the economics of the public sector, including optimal pricing and taxation, I recommend

A. B. Atkinson and J. E. Stiglitz, *Lectures on Public Economics*, McGraw-Hill, New York, 1980. This will be accessible to you after 881, if not before.

### **COURSE OUTLINE**

1. Techniques of Optimization, Envelope Theorem, second-order conditions.
2. Theory of the firm: production and cost functions, competition, monopoly, duopoly.
3. Non-spatial consumer theory, Marshallian and Hicksian demand.
4. Spatial consumer theory.
5. Spatial production theory.
6. Introduction to optimal pricing and taxation
7. General equilibrium and Pareto-optimality of competition; externalities and public goods.