Syllabus
Planning Methods

Course # 34:970:516
Mondays 9:50 am to 12:30
Spring Semester 2020

Bloustein Room 369
Civic Square Building
33 Livingston Ave, New Brunswick

Urban Planning and Policy Development Program
Bloustein School of Planning and Public Policy
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Lab Hours: (See below for details.)

Course Description:
This is a practice-oriented survey course covering common methods of data collection and analysis for planners. The course is not intended to train you to be an expert in any of these methods, though you will emerge understanding the essentials. Other courses provide more in-depth instruction in some of these topics.

This course introduces a set of tools that are widely used in urban and regional planning practice. The focus is on the development of confidence and competence in qualitative and quantitative problem solving. Four major topics include the following:

1. Gathering Your Own Data: In planning practice, it is frequently the case that standardized data are not available and you must collect your own. Students will receive a brief introduction to observation, interviewing, focus groups, and charrettes.

2. Estimating Needs: Planners need to understand the characteristics of the population they serve. This requires learning how to describe the current size, age distribution, vital statistics, and composition of that population. It also means learning how to project the characteristics of the future population, using models of growth, migration, and interregional population dynamics. It further involves estimating the resulting demand for facilities and services ranging from housing to transportation.

3. Understanding Economic Conditions: The open nature of most urban and regional economies has led to the development of special tools for studying their performance. Simple methods will be learned for evaluating shopping behavior, regional industrial
specialization (economic base multipliers) and change (shift-share analysis). The more complex tools of regional, interregional and multi-regional input-output analysis will be explored from the point of view of the information consumer. Students will also gain an understanding of the strengths and weaknesses of several measures of inequality.

4. Making Decisions: Informing real, risky decisions -- often nearly in real time -- is one of the key tasks of practicing planners. Quantitative analysis of planning options, relevant uncertainties, and decision-makers' preferences allows the effective management of information in the decision making process. Students will learn techniques that estimate costs and benefits from the distinct perspectives of developers, municipalities, and society as a whole. We will also quickly look at several state-of-the-art Planning Support Systems.

Learning Objectives:
At the end of this course, students will be able to:
• understand several useful qualitative techniques;
• acquire planning data (primary and secondary),
• use spreadsheet programs fluently and confidently,
• perform quantitative analysis in support of a variety of planning decisions,
• clearly explain and interpret their own quantitative analyses, and
• critically evaluate the quantitative work of others.

Upon successful completion of this course, students will be able to understand general planning knowledge (PAB competencies 1.a and 1.e). Students will also be able to employ planning skills to undertake particular planning questions or situations, using appropriate assumptions, methods, evidence, and arguments (PAB competencies 2.a, 2.b, 2.c, and 2.e).

Course Format:
There will be one three-hour class session each week and an optional 1-hour computer lab sessions (offered twice each week, see below for details). Grades will be based on four problem sets, equally weighted (84 percent), a number of short assignments – graded pass/fail (6 percent) and classroom participation (10 percent). Participation includes attendance, questions to guest speakers, and participation in discussions and in-class exercises. The problem sets, most involving desktop computer work, consist of exercises applying the methods learned to small data sets. The short assignments consist of a variety of very short exercises, in-class group work, blog assignments and several on-line reading evaluations.

Students are expected to attend class regularly. Absent students are responsible for all material and course changes announced in class. This is a large class, but we encourage comments and participation.

The problem sets assume basic familiarity with spreadsheet software such as Excel. In the first few weeks at the lab sessions you will have a chance to brush up on your Excel skills. If you are
an Excel novice, you should immediately buy a book and start going through the exercises. We assume that you can already navigate around a spreadsheet.

The lectures assume basic, non-calculus preparation in math, economics and statistics. The reading assignments assume a willingness to review but not replicate more advanced material. If you do not remember logarithms and exponents you should buy a review book.

Policy on late submissions:
We understand that sometimes things come up that prevent you from submitting an assignment on the due date. For the first hour of lateness, we will deduct 5% from your grade (i.e. from 100% to 95%). Up to a full day late and unexcused will result in a 10% penalty. Up to two days late will result in 20%, and beyond that a 25% penalty.

Textbooks:
There are two categories of readings: required and recommended. You are responsible for demonstrating knowledge of the content of all required readings, so read them every week before class. Mastery of recommended readings is not required; instead these are shown in case you want to learn more about a topic.

There are no required texts for this course. We will provide course readings in digital form for each lecture on Sakai. However, you should also consider buying the following recommended books as useful references for your planner’s bookshelf.

Professional Paper:
You can fulfill the writing requirement for the MCRP degree by completing a professional memo in this class. The memo will be an extended and edited version of work completed from one of the required problem sets. The course faculty member will sign off on this requirement on your MCRP graduation form when you have completed your memo.

Academic Integrity:
Academic honesty and intellectual integrity are fundamental to the process of learning and to evaluating academic performance. This is the responsibility of all members of the university, and students share the responsibility for creating and maintaining an atmosphere of honesty and integrity. If you have any doubt about what constitutes academic integrity, consult http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers.

Students are encouraged to study together in this course, but the problem sets you submit must be entirely your own work. Some of the short assignments will be completed as groups.
Schedule of Classes

Part I: Gathering Your Own Data

1 Jan 27  Introduction and overview, basic quantitative skills
2 Feb 3   Observation
3 Feb 10  Interviewing, Focus Groups, Charrettes

Part II: Estimating Needs

4 Feb 17  Demography: Census data, describing static populations
5 Feb 24  Demography: Population Projection Models, Migration
6 Mar 2   Demand Models: Need for Infrastructure & Facilities
7 Mar 9   Transportation: Trip Generation and Distribution Models

Part III: Understanding Economic Conditions

8 Mar 23  Income Accounts, LQs, Economic Base, Shift-Share
9 Mar 30  Measuring Inequality
10 Apr 6  Shopping: Gravity and Retail Market Models
11 Apr 13 Modeling Relationships

Part IV: Making Decisions

12 Apr 20 Benefit-Cost Analysis, Fiscal impact Analysis
13 Apr 27 Development Finance
14 May 4  No class

Schedule of Problem Sets

Problem sets are distributed and discussed in class. They are due on Mondays (dates provided below) by 11:55pm.

| Problem Set 1 | Distributed Feb 3, Due Mar 2 | Gathering Data |
| Problem Set 2 | Distributed Feb 17, Due Mar 9 | Estimating Needs |
| Problem Set 3 | Distributed Mar 9, Due Apr 13 | Understanding Economic Conditions |
| Problem Set 4 | Distributed Apr 13, Due May 4 | Making Decisions |
Schedule of Lab Sessions

Lab sessions will be held on Mondays and Wednesdays afternoon from 4:00 pm to 5:45 pm in the 3rd floor computer lab. If needed, we may offer additional help for those who cannot attend the lab session. The lab sessions are scheduled to match the deadlines for the 4 exercises. Some weeks do not have lab sessions, so consult this schedule.

Part I: Gathering Your Own Data

For Excel questions and review, please make appointments with the TA.

Part II: Estimating Needs

Mar 2 and Mar 4 Cohort-survival model

Part III: Understanding Economic Conditions

Mar 30 and Apr 1 Measuring Inequality

Part IV: Making Decisions

Apr 20 and Apr 22 Fiscal Impact
Apr 27 and Apr 29 Development Finance
# Schedule of Topics, Readings, and Assignments

## Part I: Gathering Your Own Data

### Week 1: Introduction and overview, Basic quantitative skills

**Required**


**Recommended**


### Week 2: Observation

**Required**


**Recommended**

Week 3: Interviewing, Focus Groups, Charrettes

Required


Recommended


Part II: Estimating Needs

Week 4: Demography: Census data, describing static populations

Required


**Recommended**


**Week 5: Demography: Population projection models, migration**

**Required**


**Recommended**


Week 6: Demand Models: Estimating need for Infrastructure and facilities

Required


Recommended


Week 7: Transportation: Trip Generation and Distribution Models

Required


Recommended


Part III: Understanding Economic Conditions

Week 8: Income Accounts, Location Quotients, Economic Base Model

Required


Recommended


**Week 9: Measuring Inequality**

**Required**


**Recommended**


**Week 10: Shopping: Gravity and Retail Market Models**

**Required**


**Recommended**


### Part IV: Making Decisions

**Week 11: No Class**

**Week 12: Benefit Cost Analysis, Fiscal Impact Analysis**

**Required**


**Recommended**


**Week 13: Development Finance**

**Required**


**Week 14: Modeling Relationships**

**Required**


**Recommended**

“Regression with SPSS” video series, available via UCLA Institute for Digital Research and Education at: [http://www.ats.ucla.edu/stat/spss/seminars/SPSSRegression/default.htm](http://www.ats.ucla.edu/stat/spss/seminars/SPSSRegression/default.htm) (note: also available for other statistical software packages)