CE & CRP 5700 Urban Transportation Demand Forecasting (3 units)  
Fall 2012

A more detailed syllabus will be provided for each of the two course periods.

**Instructors**  
Rabi Mishalani  
Philip Viton

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296 Knowlton Hall  
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**Meeting Time and Place**  
Lectures: Wednesday & Friday 2.20 – 3.40  
Denney Hall, Room 253

**Description**  
This course provides an introduction to the modeling techniques used to forecast traffic flows in urban and regional areas. It is quantitative in nature and emphasizes the application of methods. It is the basic course in a sequence dealing with traffic flow modeling and prediction. General concepts in transport economics, including the supply of and demand for transportation, are discussed. And, the methodology behind the four-step planning process is presented in detail. Conditions of use, assumptions, and accuracy of results are examined. The limitations of this methodology and alternative modeling approaches are discussed. At the conclusion of the course, students should be able to calculate expected traffic flows in a variety of circumstances.

**Requirements**  
1. Readings.  
2. Problem sets.  
3. Exams.

Each of the two instructors will determine a grade for his subject period. The course grade will be based on the average of these two grades. Further grading details will be discussed in class.

**Policy on Academic Misconduct**  
The solutions to the problem sets and exam should be your own individual and independent work. Any deviation from this requirement constitutes an act of academic misconduct and will be addressed in a strict and serious fashion.

The website of the OSU Committee on Academic Misconduct (COAM) <http://oaa.osu.edu/coamfaqs.html> states the following:

“The university’s Code of Student Conduct defines academic misconduct as ‘any activity that tends to compromise the academic integrity of the University, or subvert the educational process.’
“While many people associate academic misconduct with ‘cheating,’ the term encompasses a wider scope of student behaviors which include, but are not limited to, the following:

- Violation of course rules;
- Violation of program regulations;
- Knowingly providing or receiving information during a course exam or program assignment;
- Possession and/or use of unauthorized materials during a course exam or program assignment;
- Knowingly providing or using assistance in the laboratory, on field work, or on a course assignment, unless such assistance has been authorized specifically by the course instructor or, where appropriate, a project/research supervisor;
- Submission of work not performed in a course: This includes (but is not limited to) instances where a student fabricates and/or falsifies data or information for a laboratory experiment (i.e., a "dry lab") or other academic assignment. It also includes instances where a student submits data or information (such as a lab report or term paper) from one course to satisfy the requirements of another course, unless submission of such work is permitted by the instructor of the course or supervisor of the research for which the work is being submitted;
- Submitting plagiarized work for a course/program assignment;
- Falsification, fabrication, or dishonesty in conducting or reporting laboratory (research) results;
- Serving as or asking another student to serve as a substitute (a "ringer") while taking an exam;
- Alteration of grades in an effort to change earned credit or a grade;
- Alteration and/or unauthorized use of university forms or records.”

References

In addition to the required readings, references may be provided by each instructor.

Website

The URL for the course website is the following:

http://facweb.knowlton.ohio-state.edu/pviton/courses2/crp5700/

Topics and Schedule

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<td>Aug. 22 – Oct. 10</td>
<td>(a) Motivation, (b) Growth Factors, (c) Four-Step Process, (d) Trip Generation (e) Traffic Assignment,</td>
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<td>Oct. 12 – Dec. 4</td>
<td>(f) Trip Distribution, (g) Modal Split, (h) Auto Occupancy</td>
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1In accordance with the university calendar, the class will not meet during Thanksgiving week of Nov. 19-23 and the last class meeting will be on Fri. Nov. 30.
CE & CRP 5700 Urban Transportation Demand Forecasting (3 units)
Fall 2012
Period 1: Aug. 22 – Oct. 10

Instructor
Rabi Mishalani
Room: 491C Hitchcock Hall
Phone: 292-5949
E-mail: mishalani.1@osu.edu

Meeting Time and Place
Lectures: Wednesday & Friday 2.20 – 3.40
Denney Hall, Room 253
Office hours: Tuesday 12.40 – 1.40 or by appointment
Room 491C Hitchcock Hall

Description
Period 1 of this course motivates the need for forecasting travel demand and introduces
the four-step process to do so. Subsequently, of the four steps, trip generation (the first)
and traffic assignment (the fourth) are covered in detail.

Requirements
1. Readings: class handouts.
2. Problem Sets (20%).
3. Exam (80%): in-class on Wednesday October 10.

Policy on Academic Misconduct
The solution to the 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 addressed in a strict and serious fashion. Please refer to the website of the
OSU Committee on Academic Misconduct (COAM) <http://oaa.osu.edu/
coamfaqs.html> and the overall course syllabus for more details.

References
The following are placed on reserve at the Science and Engineering Library:
Urban Transportation Planning: A Decision-Oriented Approach, M.D. Meyer and
Urban Transportation Networks: Equilibrium Analysis with Mathematical
Programming Methods, Y. Sheffi, Prentice-Hall, 1985 (OSU call number: HE305 .S54
1985).
Topics
1. Introduction to Urban Transportation Planning
2. Motivation for Demand Forecasting and Basic Concepts
3. Growth Factors Approach
4. Four-Step Process
5. Trip Generation: Concept
6. Trip Generation: Cross-classification Approach
7. Trip Generation: Regression Modeling Approach
8. Traffic Assignment: Link Performance Functions
9. Traffic Assignment: Concept
10. Traffic Assignment: Methodology