

**University of Illinois at Chicago  
Department of Civil and Materials Engineering**

**CME 508  
Urban Travel Forecasting**

**Fall 2006**

**Instructor:** Kouros Mohammadian, Ph.D.

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**Catalog Description:**

Theory and method of forecasting travelers' choices of route, mode, destination, departure time, trip frequency and origin location in congested transportation networks.

**Prerequisites:**

An introductory course to transportation engineering or transportation planning, differential calculus – first college level course

**Course Objectives:**

1. Obtain an understanding of the urban transportation planning studies and formulation and solution of urban travel demand forecasting models on large-scale transportation networks;
2. Become familiar with the use and application of available software systems for urban travel forecasting and network analysis;
3. Develop an awareness of approaches to the analysis and design of large-scale civil engineering systems.
4. Become familiar with land use - transportation interactions and also environmental impacts of transportation
5. Obtain an understanding of current transportation planning issues and policies.

**Lectures:**                      Fridays                      2-5 p.m.                      (214 DH)

<b>Grading System:</b>	Assignments and Lab Exercises	25%
	Paper Review and Presentation (October)	15%
	Final Exam (probably on December 8)	30%
	Term Project (due: December 1)	<u>30%</u>
	TOTAL	100%

**References:**

- M.D. Meyer and E.J. Miller, *Urban Transportation Planning: A Decision-Oriented Approach, Second Edition*, McGraw-Hill, 2001.
- Ortuzar, J. de D. and L.G. Willumsen, *Modelling Transport, Third Edition*, New York: John Wiley and Sons, 2001.
- Ben-Akiva, M. & S.R. Lerman, *Discrete Choice Analysis: Theory and Application to Predict Travel Demand*, Cambridge, Mass.: MIT Press, 1985.
- Professor David Boyce's notes available on the course webpage.
- PowerPoint slides used in class will be available online.
- Additional readings will be distributed periodically throughout the term.

### **Tentative Lecture Schedule**

The schedule will likely slip as the term progresses. Note that each section may vary slightly from the organization shown here.

Week 1:	Introduction to Transportation Planning
Week 2:	Planning & Decision-Making
Week 3:	Transportation as a System
Week 4:	Trip Generation
Week 5:	Trip Distribution
Week 6:	Modal Split
Week 7:	Discrete Choice Modeling
Week 8:	Trip Assignment
Week 9:	Land Use - Transportation Interactions
Week 10:	Urban Activity System, and Planning for Sustainability
Week 11:	Performance Analysis of Transportation System
Week 12:	Transportation Impact Analysis
Week 13:	Cost Modeling and Project Evaluation
Week 14:	Emerging Methods