



**CE263 Aug. 3:0**

## **Modelling Transport and Traffic**

### **Instructor**

Ashish Verma

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### **Teaching Assistant**

NA

Email: NA

**Department: Civil Engineering**

Course Time: 3:30 - 5:00 PM

Lecture venue: Civil Engineering Department

Detailed Course Page: There is no course web page

### **Announcements**

NA

### **Brief description of the course**

The course is ideal for students who are doing M-Tech or Ph.D. in Transportation Engineering. With the current state of urban transportation in Indian cities with high externalizes in terms of traffic congestion, air and noise pollution, road accidents etc., it is apt and pertinent to look at more scientific ways of understanding and modeling transport system so as to create effective decision support for city transport planners and engineers.

### **Prerequisites**

None

### **Syllabus**

Approaches to travel demand modelling; trip-based modelling approach, activity based travel demand modelling, land use-transport models; traffic flow theory; deterministic and stochastic models of traffic flows; delay and saturation flow models; pedestrian flow modeling; optimization of public transport system

### **Course outcomes**

The students will learn to use various quantitative methods (in modeling, simulation, and optimization) to

solve problems of urban transportation systems both with respect to planning and operations. The students will be equipped with adequate know how to plan various transport improvements in a given urban area.

### **Grading policy**

50% for sessionals and 50% for end-sem exam (written exam)

### **Assignments**

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### **Resources**

J. de D. Ortuzar and L.G. Willumsen, Modelling Transport, John Wiley and Sons, 2001.

A. D. May, Traffic Flow Fundamentals, Prentice-Hall, 1990

A. Verma and T. V. Ramanayya, Public Transport Planning and Management in Developing Countries, CRC Press, 2014 (in press)

Vuchic Vukan R., Urban Transit: Operations, Planning and Economics, Prentice Hall, 2005.