

Optimal Traffic Control-Urban Intersections, by Slobodan Guberinić, Gordana Šenborn, Bratislav Lazić, 2008.

Additional Requirements

Laptop Required for In-class Computer Program Practice. Please stop by my office before this Thursday's class for installation of the traffic simulation software.

Schedule

1/25	Introduction
2/1	Traffic Flow Fundamentals I Computer simulation lab 1 – Basic concept
2/8	Traffic Flow Fundamentals II Computer simulation lab 2 –stop and yield control, intersection designs isolated signals I
2/15	Traffic Flow Fundamentals III Traffic Flow Fundamentals IV Term Project Grouping Due
2/22	Traffic Flow Fundamentals V Term Project Proposal Presentation (5-10 min per group)
3/1	Intersection signal control – I, Fundamentals and Phasing Intersection signal control – II, clearance timing parameters
3/8	Computer simulation lab 3 –isolated signals II Intersection signal control – III, Design procedures I
3/15	Intersection signal control – IV, Design procedures II Computer simulation lab 4 –Freeway Interchange and Ramps
3/22	Spring break
3/29	Mid-term update of term project progress (20-min per group)
4/5	Freeway Control Coordinated signal control systems I
4/12	Computer simulation lab 5 – consecutive signals Coordinated signal control systems II
4/19	Actuated signal control systems Computer simulation lab 6 – Actuated signals
4/26	SYNCHRO Software Actuated signal control systems
5/3	Term Project Presentation 1
5/10	Term Project Presentation 2

– identify
Problem

– collect data

Assignments and Grades

The various components of the course will be weighted as follows:

Midterm Examination	20%
Final Examination	20%
Term Project Report	35%
Term Project Presentation	5%
Participation/Presentation	5%
Homework	15%
	100%

For reasons of numerical simplicity, grades will be assigned according to the following scale:

A	90.0 to 100.0
B	80.0 to 89.9
C	70.0 to 79.9
D	60.0 to 69.9
F	below 60.00

Homework will be concentrated near the beginning of the semester to illustrate concepts of traffic flow theory, intersection capacity and signal design, and computer applications. Problem sets will be distributed in class approximately each week before they are due.

Each student will participate in a semester-long, group term project. The term project will consist of a complete analysis and redesign of a traffic control system. A final report will be due on the last day of classes. Strong teamwork on projects is expected; students will be asked to assess the level of effort by each team member, including themselves.

Report are recommended to be organized as:

1. Project Description and Existing Geometry
2. Existing Traffic Characteristics
3. Design Alternatives
4. Capacity and Simulation Analysis
5. Final Report and Presentation, including Impact Evaluation and Recommended Design

Graduate Differentiation

Graduate students will be graded for exhibiting leadership on the class project and will be asked to complete all extra credit homework problems for normal credit. If possible graduate students will be assigned to smaller project teams, so as to increase their level of participation.

Office Visit

Each student is required to visit the instructor in his office during office hours (or another mutually agreeable time) to discuss term project progress. The office visit should occur during the first six weeks of class.

Administrative Policies

Disabilities. If you need special accommodations in order to meet any of the requirements of this course, please contact your instructor as soon as possible.

Religious Observances. Students will be allowed to complete examinations or other requirements that are missed because of a religious observance. You must give your instructor advanced notice of any missed requirements that would be caused by a religious observance.

Comments on Course. Your comments about and criticisms of the course are welcome by the instructor at any time.