CE 223L - Transportation Engineering Laboratory

Classroom: 17-2646, Pomona

Instructor: Dr. Xinkai Wu  
Office: 17-2657  
Office Hours: Monday/Wednesday: 3:00-5:00pm; Tuesday: 4:00-5:00pm  
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COURSE DESCRIPTION

CE 223L is designed to provide an overview of the fundamentals of urban traffic engineering, including data collection, data analysis, and microscopic traffic simulation. This course will expose students to the use of data analysis tools and traffic simulation. A major element of this class is to use a state-of-the-art microscopic traffic simulator to design an over 10-mile freeway corridor.

The course consists of a combination of lecture and group project work. Students are expected to complete reading assignments prior to the classroom discussion so as to maximum the value of the discussion. Project work will be completed both inside and outside of class meeting time.

COURSE OBJECTIVES

1) To learn and apply the principles of traffic data collection, data analysis, and microscopic traffic simulation;
2) To learn and apply VISSIM, a microscopic traffic simulator.

PREREQUISITES & REQUIREMENTS

- CE 222/L. Highway Engineering/Laboratory

COURSE CALENDAR (Tentative)

<table>
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<tr>
<th>Weeks</th>
<th>Topics</th>
<th>Reading Materials</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>1 01/04</td>
<td>Introduction and review of the fundamental of transportation engineering</td>
<td>slides</td>
<td>HW#1: Freeway loop detector data analysis</td>
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<tr>
<td>2 01/11</td>
<td>Freeway data collect and analysis</td>
<td>PeMs Website <a href="http://pems.dot.ca.gov/">http://pems.dot.ca.gov/</a></td>
<td>HW#2: Data collection for course project</td>
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<tr>
<td>4 01/25</td>
<td>Begin geometry design of course project</td>
<td>Class notes</td>
<td>HW#3: Geometry design for course project</td>
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<td>5 02/01</td>
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<td>Course Project: Data input, calibration and output generation</td>
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<td>6 02/07</td>
<td>Data input for course project</td>
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<td>7 02/15</td>
<td>Model calibration</td>
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<tr>
<td>8 02/22</td>
<td>Performance (MOE) generation and scenarios testing</td>
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<tr>
<td>9 02/29</td>
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<td></td>
<td>Presentation &amp; Project Due</td>
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<td>10 03/07</td>
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X. Wu  
Syllabus, 1/2
READING MATERIALS & RESOURCES


GRADING

- Attendance: 10%
- Homework: 30%
- Project Submissions: 60%

COURSE POLICIES

Accommodations for Students with Disabilities: Participants with disabilities are encouraged to contact Disability Services and their instructor to discuss their individual needs for accommodations. Disability Services is located in Disability Resource Center, 3801 W. Temple Avenue, 9-10, Pomona, CA 91768. Staff can be reached at http://dsa.csupomona.edu/drc/ or by calling (909) 869-3333 (voice or TTY). Also, students with special needs are strongly encouraged to talk to the instructor. All discussions will remain confidential. For more information,

Sexual Harassment: University policy prohibits sexual harassment as defined in the University Policy Statement (http://www.csupomona.edu/~policies/Administrative/pdf_drugfree_zero_nondiscrimination/nondiscrimination_sex_harassment.pdf). Complaints about sexual harassment should be reported to the Office of Diversity and Compliance at (909) 869-4646, or visit the website (http://www.csupomona.edu/~diversity/policies.shtml), or directly contact Ms. Munoz-Silva at (909) 869-5152. Diversity and Compliance is located in Building 98, Room B1-10, 3801 West Temple Avenue, Pomona, CA 91768.

Academic Dishonesty: Check website http://dsa.csupomona.edu/judicialaffairs/academicintegrity.asp to understand university policies of academic dishonesty. If it is determined that a student has engaged in any form of Academic Dishonesty, he or she may be given an 'F' or an 'N' for the course, and may face additional sanctions from the University.

Attendance: Attendance will be taken at the beginning of each class, students are expected to attend all class meetings, and the instructor may deduct points for absences. It is also important to arrive before class begins. Late arrivals are disruptive, and the late student often misses important information. Habitual absences and/or tardiness, meaning missing class 1 time or more, will be grounds for grade reduction or dismissal from the class.

Cell Phones and Food: Cell phones must be silenced and may not be used in class. Do not bring food to class. You may bring drinks and snacks into class so long as they are in containers that won’t spill.

Collaboration and Teamwork: You will be required to work in teams for some assignments and the course project. You are encouraged to study in teams and sit with your teammates during class. There will often be group discussions during class and you should sit near people you enjoy working with. You may work with others in completing the problem sets for this course. However, it will be critical to your success that you individually understand all the problems in the problem sets. Do not substitute copying for good collaborative learning—it will hurt you in the long run. When you do work in teams on material submitted for a grade, you must document the collaboration that took place. The projects will have formal reports that will be signed by all team members.

Instructor Prerogative: The instructors may change policies, procedures, assignments, schedules, grade weighting or other aspects of this course when they deem it necessary. You will be notified of any such changes.

Late Policy: All assignments are due in class at the beginning of the lecture session. The due dates will be announced in class. If you will not be present, you are responsible for having the work submitted to the CE department office or to the instructor before the scheduled class time. Late work will not be accepted.