

CE471 - Principles of Transportation Engineering
Civil and Environmental Engineering Department
University of Southern California

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Textbook:

C. S. Papacostas & P. D. Prevedouros, *Transportation Engineering and Planning*, Third Edition, Prentice Hall, 2001

Course Description

CE 471 is a 3-unit undergraduate civil engineering course covering the principles of planning, financing, design, construction, operation and maintenance of transportation systems.

Students enrolling in this course are required to have successfully met all the prerequisite requirements as established by the Civil and Environmental Engineering Department.

Course Expectations

1. ***Attendance and Participation in class.*** The class will meet on the dates identified in the syllabus (see the Header portion of the Syllabus). Due to the diversity of topics, material in addition to those covered in the assigned readings for the textbook, will be handed out and discussed. ***In the exams, students will be responsible for all the material covered during the course.*** I will take attendance and this will be part of the grade. Furthermore, students will be also evaluated based on their participation and contributions to discussions in the class.
2. ***Assignments.*** Students are expected to submit assignments by their assigned deadlines. Late submittals, albeit complete, will be significantly graded down. Any reasonable delay, with proper reason, need to be discussed and approved in advance of the deadline.
3. ***Class project.*** Individual or group projects, depending on the number of students, will be assigned. Details and format of the class projects will be discussed in the first class meeting. Students are also expected to present their projects in the last meeting of the class.
4. ***Field trip.*** There will be a mandatory field trip to the traffic management centers at Los Angeles Department of Transportation (LADOT) and Caltrans District 11, both located in downtown Los Angeles. The date of the field trip will be coordinated with the appropriate staff from those agencies, with the goal of minimizing inconveniences to the majority of students.

Each student is expected to submit a one –page report, individually prepared, by the deadlines shown on the Course Schedule in this Syllabus.

5. **Exams.** There will be a mid-term and a final exam for this course on the dates shown on the Course Schedule and on USC Catalogue, respectively.
6. **Extra credit for attending one of the ITE Southern California Section monthly meetings.** Students may receive extra credit (5%) for attending one of these meetings, and submitting proof of attendance with a short briefing (not to exceed one double-spaced page) about the events they attended. Details and information about the dates and locations of this meeting will be discussed in the first class meeting, and will be also shared with all students each month in advance of those meetings.
7. **Syllabus revisions.** I may regularly assess progress and elicit student feedback regarding the course. If necessary, I will revise the syllabus (contents and/or schedule) to make it more suitable, and will inform all students accordingly.

Grading

Each student will be evaluated based on the following criteria:

Class Attendance and Participation	10%
Assignments	10%
Class Projects	10%
Class Project Presentation	5%
LADOT/Caltrans TMC Report	5%
Mid-term Exam	30%
Final Exam	30%
Total	100%

Students will be graded based on their percentile standings compared to the overall class performance, using the following breakdown:

90-100th percentile	A
80-89th percentile	B
70-79th percentile	C
60-69th percentile	D
<60th percentile	F

ETHICS

Academic integrity: Students should maintain strict adherence to standards of academic integrity, as described in SCampus (<http://www.usc.edu/dept/publications/SCAMPUS/>). In particular, the University recommends strict sanctions for plagiarism:, defined below:

11.11 Plagiarism

- A. The submission of material authored by another person but represented as the student's own work, whether that material is paraphrased or copied in verbatim or near-verbatim form.
- B. The submission of material subjected to editorial revision by another person that results in substantive changes in content or major alteration of writing style.
- C. Improper acknowledgment of sources in essays or papers.

Note: Culpability is not diminished when plagiarism occurs in drafts that are not the final version. Also, if any material is prepared or submitted by another person on the student's behalf, the student is expected to proofread the results and is responsible for all particulars of the final draft.

Source: SCampus University Governance; <http://www.usc.edu/dept/publications/SCAMPUS/governance/gov05.html>

I discourage over-reliance on material found on the World Wide Web, and all such material must be fully documented with regard to author as well as URL. If you have any questions about academic integrity or citation standards, please ask in advance.

Additional Recommended Readings and References:

These will be posted on Blackboard under “Course Documents” in different folders for the topics covered in the course.

COURSE SCHEDULE*

Week	Date	Topics	Readings	Homework/ Assignments	Due Assignments
1	8/23	Course introduction. Transportation systems, modes, organizations and financing.	Ch. 1 & Ch. 5		
2	8/30	Vehicle motion. Human factors. Flow modes.	Ch. 3	3 (7, 15)	
3	9/6	Capacity analysis.	Ch. 4	Will be assigned.	3 (7, 15)
4	9/13	Capacity analysis.	Ch. 4	Will be assigned.	
5	9/20	Transportation planning and modeling.	Ch. 7 & 8		Capacity assignments.
6	9/27	Transportation planning and modeling.	Ch. 7 & 8	8 (3, 7, 9, 12)	
7	10/4	Transportation impacts and parking studies.	Ch. 9	9 (1, 3, 5)	8 (3, 7, 9, 12)
8	10/11	Mid-term Exam			9 (1, 3, 5) & Topic for “Class Project”
9	10/18	Geometric design.	Ch. 2	2 (2, 5, 12)	
10	10/25	Geometric design. Pavement design. Traffic Engineering (Laws, signals, signing and striping).	Ch. 2 & Handouts	2 (17, 19)	2 (2, 5, 12)
11	11/1	Traffic Engineering (Laws, signals, signing and striping). Intelligent Transportation Systems (I.T.S.)	Ch. 6 & Handouts		2 (17, 19) & Report from the field trip.
12	11/8	Principles of port planning. Port of Los Angeles operations and expansion plans.			
13	11/15	Principles of airport planning. LAX Master Plan.			
14	11/22	Environmental and economic issues of transportation projects.	Ch. 10., Ch. 11 & App. A		“Class project”.
15	11/29	Presentation of Class Projects.			Report from the ITE meeting(s).

* *Subject to change as appropriate.*