



Department of Civil and Environmental Engineering
Colorado State University
Fort Collins, CO 80523

CIVE 303: INFRASTRUCTURE AND TRANSPORTATION SYSTEMS (SP 15)

MWF 9:00-9:50AM, CLARK A 202 (Jan 20-May 10)

Instructor:

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Office hour: MW 2:00-3:00 PM, F 10:00-11:00 AM. A205H Engineering Blvd.

Required Textbook:

1. Fred Mannering, Scott, S Washburn, Principles of Highway Engineering and Traffic Analysis. 5th Edition, Wiley, ISBN 978-1-118-12014-9

Other material will be made available via Canvas or by reference to other websites.

<http://info.canvas.colostate.edu/login.aspx>

Course prerequisite

Completion of CE freshman and sophomore core courses, basic knowledge of engineering computing, spreadsheets, AutoCad, surveying, introduction to engineering profession, and engineering report preparation, including use of software.

Objective:

This core course covers major aspects of transportation infrastructure system. Emphasis is on highway engineering and part of traffic and bridge engineering. Specific topics are: infrastructure basics, highway geometry design, pavement design, traffic engineering basics and bridge structure preliminary design.

Assignments & homework:

Each homework will be assigned on or before Wednesday and will be due in the beginning (within 10 minutes) of the next Wednesday class. **No late homework will be accepted after the due time** except for business trips, medical conditions (doctor's sheet required) or other critical events acceptable by the instructor which DIRECTLY conflict with the effort on finishing the HW on time. All these events do require written documentation. Arrangements of late HWs should be made with the instructor as soon as possible.

Grade:

Homework & other assignments	30%
Mid-term exams (2 exams)	40%
Final exam (May 14 th 11:50AM-1:50 PM*)	30%

*Reference only. Check University website for accuracy before the exam

A=90-100

B=80-89

C=70-80

D=60-69

F=<60

Term grades for this course will use the +/- grading system as described in the CSU catalog.

Makeup exam policy:

1. For people who can not attend regular exams due to university business duty, serious healthy condition or family emergency (all with written documentation), a makeup exam may be arranged AFTER the regular exam. All requests should be made at least 3 days before the exam except for emergencies. NO make-ups for any pop-up in-class activity.

Academic integrity:

Academic dishonesty is a serious problem. University rules including academic penalty and further investigation by the university authorities will be **strictly enforced** in this course. Please review student handbook for details. You are encouraged to work with others, but you should fully understand the work you turned in and are sure any work you have turned in is your **own**.

Usually only the textbook and notes (including handouts) are allowed to be used to finish your homework. Any use of solution books or old homework/exams from previous years in the homework or exams is strictly prohibited and will be regarded as cheating.

Topics (the schedule may be subject to adjustments):

PART1. Introduction of Infrastructure systems (Week 1-2)

- a. Introduction of course
- b. Infrastructure system

PART2. Highway Engineering and Traffic Analysis Basics (Week 3-13) (use textbook)

- a. Introduction of Highway Engineering (Chapter 1) Week 3
- b. Highway geometric design (Chapter 2-3) Week 4-6
- c. Highway pavement design (Chapter 4) Week 7-10
- d. Traffic Engineering Basics (Week 11-13)

PART3. Bridge Engineering Basics (Week 14-15)