

## CE 3361-001 Transportation Engineering

**Instructor:** name ([email@ttu.edu](mailto:email@ttu.edu))

**Class Hours:** TBA

**Class Location:** TBA

**Office Hours:** TBA

### Course Description

**CE 3361 - Transportation Engineering:** Co-requisites (may be taken concurrently): CE 3321, IE 3341 or MATH 3342 (or equivalents). Transportation and society; road vehicle performance; basic design and analysis concepts of highway systems; transportation planning; traffic engineering; intersection control; geometric design; pavement engineering.

### Course Objective

Present principles of transportation engineering;

Demonstrate application of principles to solve basic transportation engineering problems encountered:

- In professional practice
- The Fundamentals of Engineering exam (FE)
- The Principles and Practice of Engineering exam (PE).

Develop ancillary skills to solve basic transportation engineering problems

This course is a foundation for advanced courses in the field of transportation systems engineering.

### Expected Learning Outcomes & Assessment Methods:

ABET Criterion Program Outcomes mapped to this course:	Assessment Instrument
(a) an ability to apply knowledge of mathematics, science, and engineering	Projects, quizzes, exams
(c) an ability to design a system, component, or process to meet desired needs	Projects
(e) an ability to identify, formulate, and solve engineering problems	Projects
(f) an understanding of professional ethical responsibility	Projects, quizzes, exams
(g) an ability to communicate effectively	Projects
(j) a knowledge of contemporary issues	Projects, exams

## Course Resources

**Learning Management System:** <http://www.depts.ttu.edu/lms/>

**Content Website:** <https://...>

### Required Textbook:

Fred L. Mannering and Scott Washburn. *Principles of Highway Engineering and Traffic Analysis*, 6th Edition, Wiley (ISBN: 9781119305026).

**Other references:** TBA/delivered by content website

## Assessment Methods

### ▪ *Attendance & participation:*

Attendance/punctuality is mandatory. Active participation in class discussions is strongly encouraged. Three or more unexcused absences may result in lowering your final grade by one letter.

### ▪ *In-class quizzes:*

Four scheduled in-class quizzes will be given throughout the semester. These quizzes are to be completed in groups. No make-ups will be provided unless there is a justified reason and supporting proof.

### ▪ *Team project:*

Students will do projects in teams. Each team consists of 5 members. Project will be graded based on the quality of presentations and the final report. Grades will consider organization, thoroughness, neatness (e.g., computer-aided graphics), rationality, revision quality, team effort, and peer evaluation, etc. Extra credits will be applied to teams with extra efforts, innovations or outstanding performance. A final report is required for each team.

### ▪ *Midterm & final exams:*

This course has one midterm exam and one final exam. No make-ups will be provided unless there is a justified reason and supporting proof.

## Grading

Final grades are determined based on performance during the semester. Letter grades will be assigned using University standards. The approximate weighting of graded material in determining the final grade is as follows

- Attendance & participation: 10%
- Team project: 20%
- In-class quizzes: 20%
- Midterm exam: 20%
- Final exam: 30%

## Schedule

Week	Coverage	Presentation, Quiz, Exam
1	Overview (Ch1)	
2	Travel Demand Forecast (Ch8)	
3	Traffic Flow Theory (Ch5)	Quiz #1 on Jan 31
4	Traffic Flow Theory (Ch5)	<i>Project #1 Presentation</i>
5	Level of Service Analysis (Ch6)	
6	Traffic Control & Analysis (Ch7)	
7	Traffic Control & Analysis (Ch7)	Quiz #2
8	Traffic Control & Analysis (Ch7)	<i>Project #2 Presentation</i>
9	Midterm Review	Midterm exam
11	Vehicle Performance (Ch2)	<i>Project #3 Presentation</i>
12	Vehicle Performance (Ch2)	Quiz #3
13	Geometry Design (Ch3)	
14	Geometry Design (Ch3)	<i>Project #</i>
15	Pavement Design (Ch4)	
16	Final Review	Quiz #4
		Final Exam

## Class Policies and Procedures

*Classroom Citizenship:* All students are expected to assist in maintaining a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to experience a productive learning environment during class time, students are prohibited from engaging in activities that disturb or create distractions in the classroom. All students are expected to come to class alert and ready to participate. Sleeping, reading newspapers, and doing homework will not be allowed during the class. Inappropriate behavior in the classroom shall result, minimally, in a request to leave the class session.

*Academic Integrity:* Academic integrity is taking responsibility for one's own class

and/or course work, being individually accountable, and demonstrating intellectual honesty and ethical behavior. Academic integrity is a personal choice to abide by the standards of intellectual honesty and responsibility. Because education is a shared effort to achieve learning through the exchange of ideas, students, faculty, and staff have the collective responsibility to build mutual trust and respect. Ethical behavior and independent thought are essential for the highest level of academic achievement, which then must be measured. Academic achievement includes scholarship, teaching, and learning, all of which are shared endeavors. Grades are a device used to quantify the successful accumulation of knowledge through learning. Adhering to the standards of academic integrity ensures grades are earned honestly. Academic integrity is the foundation upon which students, faculty, and staff build their educational and professional careers. [TTU Quality Enhancement Plan, Academic Integrity Task Force, 2010]

*Absence due to Religious Observance or an Approved University Trip:* A student may be excused from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused for this purpose may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused. See OP34.19 (<http://www.depts.ttu.edu/opmanual/OP34.19.pdf>). Students are permitted the same privileges for a University Approved Trip but must provide a letter of excused absence from the trip advisor. See OP34.04 (<http://www.depts.ttu.edu/opmanual/OP34.04.pdf>).

*Other Excused Absences:* Students may submit signed forms demonstrating permitted absences for some situations (job interview, medical emergency and family emergency) in order to receive homework extensions/exam reschedules. Expected absences should be communicated to the instructor at least a week prior to the absence.

*Grade Disputes:* This class observes a 24/7 policy for grade disputes. If you would like to dispute a grade on any assessment, you are required to wait 24 hours from the time you received feedback on your assessment before filing a dispute. Then, you must submit a written request by email to your instructor regarding the dispute, and she will set up a meeting to discuss the dispute. You have seven days after receiving a grade to file a dispute.

### **ADA Compliance Statement**

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note: instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services in West Hall or call 806-742-2405.