

UTRGV

COURSE SYLLABUS

CIVE 6354 – 90L

**Advanced Transportation Engineering
Fall 2020**

Meeting times: R 17-19:30

Meeting location: Zoom platform (link will be shared via Blackboard and email)

Course Modality: Online Synchronous Classes
(OSYNC)

Dr. Fatemeh Nazari, Ph.D.

Phone: (956) 665-8812

E-mail: fatemeh.nazari@utrgv.edu

Office location: EACSB 1.207

Office hours: W 17:00-18:30 & R 15:30-17:00 by appointment *only* (via e-mail); will be held online until further notice

WELCOME & INTRODUCTION TO COURSE MODALITY STATEMENT

Welcome to CIVE 6354 Advanced Transportation Engineering. The course will be delivered fully Online Synchronous, as defined below:

Online Synchronous Courses: These courses will be delivered fully online. There will be a designated class meeting time for real-time instructor/student interaction, which will be conducted remotely via online platforms from the safety of your home. This real-time interaction may be supplemented by the digital presentation of course content. Your instructors will provide you with feedback on assigned work, communicate with you electronically, and be available to meet with you as defined on this syllabus.

COURSE DESCRIPTION, PREREQUISITES & MODE OF LEARNING

Theory and practice in transportation decision-making, planning, and modeling; advanced concepts of the transportation mathematical modeling: optimization and statistics; comprehensive presentation of trip-based models for transportation demand analysis and forecast; trip generation models; trip distribution models; trip mode choice and discrete choice models; trip assignment and network modeling; introduction to tour- and activity-based models for transportation demand analysis.

As the course modality is fully Online Synchronous, the students will join the class on Thursdays at 17:00-19:30 via Zoom, the link of which will be both posted on Blackboard and emailed to the students.

LEARNING OBJECTIVES/OUTCOMES FOR THE COURSE

1. Introduces transportation engineering within the broader field of civil engineering
2. Introduces fundamentals of transportation decision-making, planning, and modeling
3. Introduces mathematical prerequisites for transportation modeling: optimization and statistics
4. Introduces trip-based four-step models for transportation demand modeling: trip generation, distribution, mode choice, and assignment (network modeling) models
5. Introduces tour-based and activity-based models for transportation demand modeling

Students' learning will be assessed by homework, quizzes, term project, midterm examination, final examination, and active attendance.

LEARNING OBJECTIVES FOR CORE CURRICULUM REQUIREMENTS

The course objects match the set outcomes by the Texas Higher Education Coordinating Board (THECB) and the Department of Civil Engineering.

1. Critical Thinking Skills- an ability to identify, formulate, and solve engineering problems;
2. Empirical and Quantitative Skills- an ability to apply knowledge of mathematics, science, and engineering; a knowledge of real-world issues; an ability to use the techniques, skills, and technological engineering tools necessary for engineering practice
3. Communication Skills- an experience of being a team member to solve a real-world problem

TEXTBOOK, TECHNOLOGY, AND/OR RESOURCE MATERIAL

- The course materials will be provided and presented in the class, including but not limited to: Ortúzar, Willumsen, *Modeling Transport, 4th Edition*, Wiley, 2011, [ISBN: 9780470760390], [eText ISBN: 9781119993308], Available at: <https://onlinelibrary.wiley.com/doi/book/10.1002/9781119993308>
- Devices (required and intended for online attendance in this course)
 - Laptop or desktop or tablet with **webcam** and **microphone**,
 - **Internet** connection, WiFi-reliable access
 - Zoom platform which can be accessed through <https://zoom.us/>

GRADING POLICIES

A total of 100 points, as explained below.

Note: A > 90, 80 < B < 89, 70 < C < 79, 60 < D < 69

Homework (15 points): A total of 6 homework assignments (each 2.5 points). Homework is due 1 week after the assigned date unless otherwise informed in the class or via e-mail. **No late submission is allowed.** Homework assignments will be solved in the lecture session after the due date.

Term project (40 points): Will be assigned in the weeks 2-3. The final products include (a) written report #1 on research hypothesis based on reviewed literature (10 points), (b) an interim in-class presentation on literature review and methodology (10 points), (c) written report #2 on preliminary results (10 points), and (d) final in-class presentation and final written report (10 points).

Examinations (40 points): 1 midterm exam in the 10th week (20 points) and 1 final exam (20 points). There will be in-class reviews before the two exams.

Active attendance (5 points): Both Class attendance and active participation is required. At the beginning of each class, students will be called randomly to answer questions on the taught materials from the previous lecture. Any student with more than **three** absences without pre-excuse will be dropped from the class. Attendance check will be done in lecture sessions by screen capturing of the live video meeting. Only students who are shown in the live webcam will be counted.

CALENDAR OF ACTIVITIES

The following is the *tentative* calendar of activities. Potential changes in the due dates of exams and homework assignments will be informed in advance.

Week	Date	Topic	Assignments
1	Aug 27	Introduction to Transportation Engineering	
2	Sep 03	Overview of transportation decision-making, planning, and modeling (Chapter 1) Term project discussion	
3	Sep 10	Mathematics of transportation modeling: Introduction to optimization (Chapter 2)	HW #1 out (introduction and optimization)
4	Sep 17	Mathematics of transportation modeling: Introduction to statistics (Chapter 2)	HW #1 due HW #2 out (statistics)
5	Sep 24	Economics of transportation modeling: Discrete choice models (Chapter 7)	HW #2 due HW #3 out (discrete choice)

6	Oct 01	Economics of transportation modeling: Discrete choice models (Chapter 8)	Term project report #1 due
7	Oct 08	Transportation demand modeling: overview of classical trip-based four-step models Trip generation models (Chapter 4)	HW #3 due HW #4 out (trip generation)
8	Oct 15	Interim term project presentations	
9	Oct 22	Trip distribution (Chapters 5.1-5.3) Trip mode choice & discrete choice models (Chapters 6 & 9) Review for midterm	HW #4 due HW #5 out (trip distribution)
10	Oct 29	Midterm exam (on topics from Aug 27 to Oct 01) Solving midterm questions	HW #5 due
11	Nov 05	Trip assignment & network modeling (Chapter 3.5) Trip assignment & network modeling (Chapters 10.1-10.4)	HW #6 out (trip assignment) Term project report #2 due
12	Nov 12	Trip assignment & network modeling (Chapters 10.5-10.7) Transportation demand modeling: overview of tour-based and activity-based models	HW #6 due
13	Nov 19	Term project presentations Review for final exam	Term project final report due
14	Nov 26	Thanksgiving Holiday-NO class	
15	Dec 03	Study Day-NO class	
16	Dec 10	Final Exam	Final exam at 17:45-19:30

Important dates relative to the academic calendar: The UTRGV academic calendar can be found at <https://my.utrgv.edu/home> at the bottom of the screen, *prior to login*. Some important dates for Fall 2020 include:

Aug. 24 First day of classes
 Aug. 27 Last day to add a class or register for Fall 2020 classes
 Sept. 7 Labor Day – NO classes
 Nov. 11 Last day to drop a class or withdraw
 Nov. 26- 27 Thanksgiving Holiday – NO classes
 Dec. 3 Study Day – NO classes
 Dec. 4-10 Final Exams
 Dec. 14 Grades Due at 3 p.m.

COVID-19 RESOURCES:

Please visit the [UTRGV COVID-19 Website](https://www.utrgv.edu/coronavirus/index.htm) via the following link for the most up-to-date information and resources (<https://www.utrgv.edu/coronavirus/index.htm>). This includes information on self-screening questions, links to forms for travel and contact, etc.

Boilerplate language on self-screening and reporting is currently being developed.

FACE COVERING PROTOCOL

As part of the university's ongoing COVID-19 mitigation efforts to maintain a healthy environment for all members of our campus community, anyone entering a campus building must wear a face covering that covers the mouth

and nose. The covering must be worn in all hallways, public spaces, research labs, teaching/computer labs, libraries, classrooms, automobiles with a passenger, stairwells, elevators and common areas, as well as office spaces. In office spaces, when social distancing of 6 feet is possible and maintained, face coverings may be removed. Face coverings also are required in outdoor settings when safe social distancing and gathering practices are not possible.

BLACKBOARD SUPPORT

If you need assistance with course technology at any time, please contact the [Center for Online Learning and Teaching Technology](#) (COLTT).

Campus:	Brownsville	Edinburg
Location:	Casa Bella (BCASA) 613	Education Complex (EEDUC) 2.202
Phone:	956-882-6792	956-665-5327

Toll Free: 1-866-654-4555

Office Hours: Monday - Friday, 7:30 a.m. - 6:00 p.m.

Support Tickets Submit a Support Case via our [Ask COLTT Portal](#)

24/7 Blackboard Support

Need Blackboard assistance after hours? You can call our main office numbers, 956-882-6792 or 956-665-5327, to speak with a support representative.

ATTENDANCE

Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

ABSENCE/SICK POLICY

The online lecture/lab sessions of this course will not be recorded. However, lecture slides will be posted after completion of each topic of the lecture, which can help you follow the class discussions after an absence. In sickness/COVID-19-related circumstances, you can contact the instructor (with documentation) for extending homework due date.

ACADEMIC INTEGRITY

Members of the UTRGV community uphold the [Vaquero Honor Code](#)’s shared values of honesty, integrity and mutual respect in our interactions and relationships. In this regard, academic integrity is fundamental in our actions, as any act of dishonesty conflicts as much with academic achievement as with the values of honesty and integrity. Violations of academic integrity include, but are not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts (Board of Regents Rules and Regulations, STU 02-100, and UTRGV Academic Integrity Guidelines). **All violations of Academic Integrity will be reported to Student Rights and Responsibilities through [Vaqueros Report It](#).**

UTRGV POLICY STATEMENTS

STUDENTS WITH DISABILITIES

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact **Student Accessibility Services (SAS)** for additional information. In order for accommodation requests to be considered for approval, the student is responsible for providing sufficient documentation of the disability to SAS and participating in an interactive discussion with SAS staff. Accommodations may be requested at any time but are not retroactive. Please contact SAS early in the semester/module for guidance. Students who experience a broken bone, severe injury, or undergo surgery may also be eligible for temporary accommodations.

PREGNANCY, PREGNANCY-RELATED, AND PARENTING ACCOMMODATIONS

Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.

STUDENT ACCESSIBILITY SERVICES

Brownsville Campus: Student Accessibility Services is located in 1.107 in the Music and Learning Center building (BMSLC) and can be contacted by phone at (956) 882-7374 or via email at ability@utrgv.edu.

Edinburg Campus: Student Accessibility Services is located in 108 University Center (EUCTR) and can be contacted by phone at (956) 665-7005 or via email at ability@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (<http://my.utrgv.edu>); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available on or about:

Module 1	August 5-11, 2020
Module 2	August 6-13, 2020
Full Fall Semester	Pending

SEXUAL MISCONDUCT and MANDATORY REPORTING

In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report to the Office of Institutional Equity & Diversity (oie@utrgv.edu) any instance, occurring during a student’s time in college, of sexual misconduct, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment, about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at (956) 665-8287, (956) 882-8282, or OVAVP@utrgv.edu.

COURSE DROPS

According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

STUDENT SERVICES

Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Student Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor's office hours. University Resources include the Advising Center, Career Center, Counseling Center, Learning Center, and Writing Center. The centers provide services such as tutoring, writing help, counseling services, critical thinking, study skills, degree planning, and student employment. In addition, services such as the Food Pantry are also provided. Locations are listed below.

Center Name	Brownsville Campus	Edinburg Campus
Advising Center AcademicAdvising@utrgv.edu	BMAIN 1.400 (956) 665-7120	ESWKH 101A (956) 665-7120
Career Center CareerCenter@utrgv.edu	BINAB 1.105 (956) 882-5627	ESSBL 2.101 (956) 665-2243
Counseling Center Counseling@utrgv.edu Counseling and Related Services List	BSTUN 2.10 (956) 882-3897	EUCTR 109 (956) 665-2574
Food Pantry FoodPantry@utrgv.edu	BCAVL 101 & 102 (956) 882-7126	EUCTR 114 (956) 665-3663
Learning Center LearningCenter@utrgv.edu	BMSLC 2.118 (956) 882-8208	ELCTR 100 (956) 665-2585
Writing Center WC@utrgv.edu	BUBLB 3.206 (956) 882-7065	ESTAC 3.119 (956) 665-2538