



**CIVE 3345: Transportation Engineering
SYLLABUS
Fall 2021**

Subject to any new Texas legislative mandate changes.

COURSE INFORMATION:

Meeting times: MW 12:30 – 13:45 (Lecture: CIVE 3345 – 01R)

M 13:50 – 16:30 (Lab A : CIVE 3345 – AR)

W 13:50 – 16:30 (Lab B : CIVE 3345 – BR)

Meeting location: Online Lecture/Lab (Zoom link will be shared via Blackboard/email)

Face-to-Face Lecture (EIEAB 1.206)

Face-to-Face Lab (EACSB 2.111)

Course Modality: Hybrid/Reduced Seating Courses (REDUC)

INSTRUCTOR INFORMATION:

Instructor Name: Mohamadhossein Noruzoliaee, Ph.D.

Phone: (956) 665-3728

E-Mail: h.noruzoliaee@utrgv.edu

Office location: EIEAB 3.238

Office hours: MW 11:00 – 12:15 by appointment only (via email); will be held online until further notice

COURSE DESCRIPTION, PREREQUISITES & MODE OF LEARNING

Welcome to CIVE 3345 (Transportation Engineering). This course introduces principles of transportation engineering and traffic analysis in a three-credit lecture and lab form. The covered topics include, but are not limited to, introduction to transportation systems, issues, and challenges, fundamentals of traffic flow and queuing theory, highway capacity and level-of-service analysis, traffic control and analysis at signalized intersections, and travel demand and traffic forecasting.

Prerequisites: CIVE 2220 Civil Engineering Measurement and MECE 2320 Dynamics (depending on the degree plan)

Mode of Learning: The course, including lecture and lab sessions, will be delivered in Hybrid/Reduced Seating Courses (REDUC) modality. A Hybrid course, as defined by the Texas Higher Education Coordinating Board (THECB), is a “course in which a majority (more than 50 percent but less than 85 percent), of the planned instruction occurs when the students and instructor(s) are not in the same place.” To know which lecture/lab meetings will be face-to-face, please carefully read the “CALENDAR OF ACTIVITIES.”

COVID-19 RESOURCES

Please visit the [UTRGV COVID-19 protocols web page](#) for the most up-to-date COVID-19 campus information and resources. The [COVID-19 Frequently Asked Questions \(FAQs\) web page](#) offers additional guidance to specific questions. To submit a question for the FAQ, please email WelcomeBack@utrgv.edu.

UTRGV VACCINE PORTAL

UTRGV Students are eligible to receive the COVID-19 Vaccine. Students may access and complete their vaccine profile via the [UTRGV Vaccine Portal](#). For additional information on the COVID-19 Vaccine, please visit the [UTRGV Vaccine web page](#).

LEARNING OBJECTIVES/OUTCOMES FOR THE COURSE

1. Introduces transportation and traffic engineering and challenges in transportation systems
2. Provides a broad overview of the role of transportation/traffic in the economy and in society
3. Introduces highway traffic theories and transportation planning principles for solving transportation problems
4. Introduces traffic engineering approaches to highway capacity and level of service analysis
5. Introduces traffic control systems and analysis & design of signalized intersections
6. Presents a comprehensive analysis of travel demand and travel forecasting
7. Enables students to apply the principles and approaches to solve a real-world project

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

LEARNING OBJECTIVES FOR CORE CURRICULUM REQUIREMENTS

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

- Critical Thinking Skills - an ability to identify, formulate, and solve engineering problems
- Communication Skills - an experience of being a team member to solve a real-world problem
- 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

TEXTBOOK, TECHNOLOGY, AND/OR RESOURCE MATERIAL

- Textbook (recommended but NOT required, as course contents will be provided in lecture notes via Blackboard): Mannering and Washburn, Principles of Highway Engineering and Traffic Analysis, 7th Edition, Wiley, 2019, \$75.95, [ISBN: 978-1-119-68837-2], [eText ISBN: 978-1-119-49396-9], <https://www.wiley.com/en-us/Principles+of+Highway+Engineering+and+Traffic+Analysis%2C+7th+Edition-p-9781119493969>.
- Technology (required and intended for online attendance in this course)
 - Laptop or desktop or tablet with **webcam** and **microphone**,
 - **Internet** connection, WiFi – reliable access

GRADING POLICIES

A total of 100 points, as listed below.

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

Homework (20 points): Four homework assignments (each 5 points). Exact due dates will be posted when each homework is assigned. **No late submission is allowed.** HW will be solved in lecture or lab sessions after the due date.

Examinations (75 points): Three mid-term exams (each 15 points). One final exam (30 points). There will be in-class review before the final exam.

Active attendance (5 points): Both class attendance and active participation in class discussions are required. Any student with more than **three** absences (total of both lecture AND lab sessions) without justified pre-excuse will be dropped from the class. Attendance check will be done in online sessions by screen capturing of the live video meeting, and in face-to-face sessions by checking at a random time during the meeting.

CALENDAR OF ACTIVITIES:

The following is the **tentative** calendar of activities. Potential changes will be informed through Blackboard/email in advance.

Week	Date	Topic	Exams and Homework (HW)	Notes
1	Aug 23 Aug 25	Introduction to transportation systems		Online Online

Week	Date	Topic	Exams and Homework (HW)	Notes
2	Aug 30 Sep 01	Traffic stream parameters Basic traffic stream models; Models of traffic flow		* **
3	Sep 06 Sep 08	Queuing theory and traffic flow analysis	Labor Day – NO classes	**
4	Sep 13 Sep 15	Queuing theory and traffic flow analysis (Cont'd) Introduction to HCM; LOS concept & determination	HW1 out	* **
5	Sep 20 Sep 22	LOS of basic freeway segments LOS of multilane highways	HW1 due	* **
6	Sep 27 Sep 29	LOS of two-lane two-way highways	1st MIDTERM EXAM	*** Online
7	Oct 04 Oct 06	Design traffic volumes Introduction to signalized intersections	HW2 out	* Online
8	Oct 11 Oct 13	Analysis of signalized intersections Development of traffic signal phasing & timing plan	HW2 due	Online Online
9	Oct 18 Oct 20	Development of traffic signal phasing & timing plan (Cont'd) LOS of signalized intersections		Online Online
10	Oct 25 Oct 27	Signal coordination	2nd MIDTERM EXAM	*** Online
11	Nov 01 Nov 03	Adjustment factor and arrival type Introduction to travel demand & traffic forecasting	HW3 out	Online Online
12	Nov 08 Nov 10	Trip generation & regressions models Trip destination & gravity models	HW3 due	Online Online
13	Nov 15 Nov 17	Modal split & choice models Trip assignment		Online Online
14	Nov 22 Nov 24	Traffic forecast in practice	HW4 out 3rd MIDTERM EXAM	Online ***
15	Nov 29 Dec 01	FE Civil Exam Overview (Transportation Engineering) Final Exam Review	HW4 due	Online Online
16	Dec 08		FINAL EXAM 10:15-12:00	***

Definition of symbols and terms in the “Notes” column in the Calendar of Activities:

- * Face-to-face lecture AND face-to-face lab for **group A**; online lecture for **group B**
- ** Face-to-face lecture AND face-to-face lab for **group B**; online lecture for **group A**
- *** Face-to-face exams (details of face-to-face requirements for groups A and B will be announced in advance of exams via Blackboard)

Online Online lecture and lab for both group A and group B

Group A: Students whose lab sessions are on Mondays (that is, enrolled in CIVE 3345 – AR)

Group B: Students whose lab sessions are on Wednesdays (that is, enrolled in CIVE 3345 – BR)

Example: Consider August 30, 2021 in the above Calendar of Activities. For this date, “*” in the Notes column means that students in group A must be physically present in both the face-to-face lecture and the face-to-face lab. However, students in group B must virtually attend the same lecture session through Zoom.

Important dates relative to the academic calendar: The UTRGV academic calendar can be found on [My.UTRGV](#) at the bottom of the screen prior to login. Some important dates for Fall 2021 include:

Aug. 23	First day of classes
Aug. 26	Last day to add a class or register for Fall 2021 classes
Sep. 6	Labor Day – NO classes
Nov. 10	Last day to drop a class or withdraw
Dec. 2	Study Day – NO classes
Dec. 3-9	Final Exams
Dec. 13	Grades Due at 3 p.m.

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. Any student with more than **three** absences (total of both lecture AND lab sessions) without justified pre-excuse will be dropped from the class. Attendance check will be done in online sessions by screen capturing of the live video meeting, and in face-to-face sessions by checking at a random time during the meeting. UTRGV's attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; have been provided such an accommodation by Student Accessibility Services (SAS); for observance of religious holy days; or for military service. Accommodations related to COVID-19 should also go through SAS. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

ABSENCE/SICK POLICY:

In the event of a justified pre-excuse of absence (for example, advised by the UTRGV COVID-19 response team based on the exposure; Students will be able to provide the instructor with documentation from the UTRGV COVID-19 response team based on the student reporting protocol on the [UTRGV COVID-19 protocol web page](#)), students need to email the instructor in advance of an absence or as soon as possible. If approved by the instructor, the missed sessions will not count toward the three-absence policy triggering the drop-by-instructor.

Makeup Work: For the approved absences, the following mechanisms have been set up to help students keep up with coursework: (i) students can use the lecture/lab notes shared through the Blackboard to learn the course materials, and can schedule appointments during the instructor's office hours for further questions about the contents of the missed lecture/lab (Note: online lectures will not be recorded); (ii) students can email the instructor requesting for approval and timeline of possible late submission of homework (Note: each homework assignment will be solved in a session after the due date. If the instructor approves a late submission after an assignment is solved in the class, the contents of the

makeup homework and/or its grading might change compared to the original homework); and (iii) students can email the instructor requesting for approval and timeline of possible makeup exams (Note: the contents of the makeup exam might be different from the original exam).

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 reasonable academic accommodations should contact **Student Accessibility Services (SAS)** for additional information. In order for accommodation requests to be considered for approval, the student must apply using the [mySAS portal](#). and is responsible for providing sufficient documentation of the disability to SAS. Students are required to participate in an interactive discussion, or an intake appointment, with SAS staff. Accommodations may be requested at any time but are not retroactive, meaning they are valid once approved by SAS. 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) should submit the request using the form found at <https://www.utrgv.edu/pregnancyandparenting> for review by **Student Accessibility Services**.

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 encouraged 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:

Fall Module 1 (7 weeks)	October 6-12, 2021
Fall Regular Term 2021	November 12- December 1, 2021
Fall Module 2 (7 weeks)	December 1-7, 2021

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 (OIED@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 (drop) 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: (956) 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	EITTB 1.000 (956) 665-7120
Career Center CareerCenter@utrgv.edu	BINAB 1.105 (956) 882-5627	ESTAC 2.101 (956) 665-2243
Counseling Center Counseling@utrgv.edu Mental Health 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	BLIBR 3.206 (956) 882-7065	ESTAC 3.119 (956) 665-2538

DEAN OF STUDENTS RESOURCES:

The Dean of Students office assists students when they experience a challenge with an administrative process, unexpected situation such as an illness, accident, or family situation, and aids in resolving complaints. Additionally, the

office facilitates student academic related requests for religious accommodations, support students formerly in foster care, helps to advocate on behalf of students and inform them about their rights and responsibilities, and serves as a resource and support for faculty and campus departments.

[Vaqueros Report It](#) allows students, staff and faculty a way to report concern about the well-being of a student, seek assistance in resolving a complaint, or report allegations of behaviors contrary to community standards or campus policies.

The Dean of Students can be reached by emailing dos@utrgv.edu, by logging into [Virtual Office hours](#) in which a representative is available Monday-Friday 9:00-11:00 a.m. and 1:00-4:00 p.m, or by visiting one of the following office locations: Cavalry (BCAVL) 204 or University Center (EUCTR 323). Phone: 956-665-2260.