

Instructor

Behruz Paschai, Ph.D., P.E.

Day and Time: Friday 6:00-8:50 PM

Room: NH 239 - CE Computer Lab

Reserved Computer Lab Hours: Tue, Thu 7-7:50 PM, Friday 6:00-8:50 PM

Office Hours: after class

E-Mail: behruz.paschai@uta.edu

Phone: 817-272-5055

Do not contact me at my work phone or email. I will check my UTA email every night and respond to them in a timely fashion.

Text Book

No specific text book is required for the class. The relevant documents will be placed on reserve in the library, or made available in class, or through other available online resources.

Attendance

It is highly recommended that you attend every session. I will normally setup extra sessions during the week and/or weekends to assist you with the homework assignments. It is highly recommended that you attend these sessions as well.

Online Course Resources

TBA

Final Grade

Final grade is calculated based on the grades in the homework assignments (at least 4 and at most 5 assignments). The assignments include the topics of: 1) traffic impact study (~15%); 2) signal timing and HCM-based intersection level-of-service analysis (~20%); and 3) microscopic traffic simulation (~65%). The letter grades will be based on the table below and will not be curved:

Grade	
Number	Letter
$90 \leq X \leq 100$	A
$80 \leq X < 90$	B
$70 \leq X < 80$	C
$60 \leq X < 70$	D
$X < 60$	F

Objective

The main objective of this course is to introduce you to:

- Traffic impact studies;
- Traffic control systems; and
- Macroscopic and microscopic traffic simulation.

Several widely used computer software will be introduced in the form of individual homework or a team project. This could include programs such as TRAFFIX, SYNCHRO/SIMTRAFFIC, CORSIM, VISSIM and TransModeler. The class will only meet in a lab setting. These applications are only available in the lab and cannot be installed on your personal computers and might not be remotely accessible. Some of these applications will be available on the lab machines after the final course grades are posted. However, some of the licenses will expire at the end of May. Therefore, consider the time needed to renew the licenses in your schedule if you are not done with all your assignments by the end of the semester. The number of available licenses for some of the software applications could potentially be less than the total number of students in the class. In these cases, homework will be in a group assignment setting. Every student must be part of a team for the group projects and cannot perform them individually. The students are responsible for finding their team members.

Homework Assignments

The homework assignments are designed to introduce you to some real world examples and complications of traffic studies. Please plan your work ahead of time so the homework due dates can be met. The homework deliverables will be defined prior to each assignment. Please do not contact any Cities, TxDOT, DART, or NCTCOG for acquiring information on the projects corresponding to the homework assignments.

All assignments are due by midnight of the date set at the time the assignment is given. Do not provide multiple submittals for any of the assignments. Only the first submittal will be graded. Ten (10) points are deducted from each assignment that is turned-in after the due date or more than once, even if the first time was prior to or on the due date. Twenty (20) points are deducted from the assignments that are turned-in after the grades are posted for that assignment.

The last assignment should be turned-in at least one week prior to the due date for submitting the final grades to allow for grading, specially, if you are graduating this semester. An incomplete grade will be given to the students that have not turned-in all their homework assignments in their entirety on time, which could keep them from graduating. Do not wait until the last day to submit your assignment and try your best not to fall behind any of the submittals. The assignments do not have equal weights in the final grade. The grade change process can take anywhere from one to two weeks. It is strongly recommended that you plan to submit all the assignments on time and prior to the end of the semester.

There will be one submittal and total grade for the team projects. However, the grade of the individual team members will not necessarily be the same. Each team member will be asked to express his/her opinion about the level of contribution of other team members and their

own on a scale of 0 to 10. Each team member's grade will be adjusted based on the average of the scores that they receive from the team members for that assignment.

Some of the assignments are partially graded after each major element of the assignment is completed. Each part is graded and the grade becomes part of the overall grade for that assignment. The corrections made to the submittal after each part is graded will not improve or affect the overall grade for that assignment.

Most of the assignments are linked such that the results of each assignment often serve as an input to the next one. Therefore, do not skip any one of them with the plan of completing it at a later time. Each assignment consists of a write-up and the corresponding electronic files. The write-up on each assignment should represent the level of effort you have put in solving the problem, the assumptions, inputs and outputs. Therefore, there are no upper or lower limits on the number of pages for each write-up.

Most of the class communications will be through email or through other available online course resources. Therefore, check your UTA email account at least once a day during the week and on the weekends, specially, prior to assignment due dates. I will forward my answer(s) to the questions I might receive about the assignments to the whole class, without mentioning who originally asked the question(s). Therefore, it is recommended that you check your email often to ensure that you do not miss these emails.

Homework Review

Most of the homework assignments include the use of a software application. Therefore, if the input files are not correct, parts or all of the reported measures could be incorrect. Do not submit your electronic input files and request for them to be reviewed in their entirety prior to your final submittal.

Course Outline

The topics covered can include but are not limited to:

1. Traffic impact study
 - a. Trip generation, distribution and assignment
 - b. Intersection analysis
 - c. Driveway design and analysis
2. Traffic engineering concepts
 - a. Vehicle detection
 - b. Signal timing
 - c. Signal progression
 - d. Introduction to traffic signal design
3. Macroscopic and microscopic traffic simulation
 - a. Network coding
 - b. Link attributes
 - c. Node attributes
 - d. Traffic demand definition
4. Extraction of measures of effectiveness (MOE)

Drop Policy

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://web.uta.edu/aao/fao/>).

Disability Accommodations

UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a **letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy

The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos.

Title IX Policy

The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex

discrimination and will not be tolerated. *For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.*

Academic Integrity

Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/>.

Student Support Services Available

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include [tutoring](#), [major-based learning centers](#), developmental education, [advising and mentoring](#), personal counseling, and [federally funded programs](#). For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

Electronic Communication Policy

UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Student Feedback Survey

At the end of each term, students enrolled in face-to-face and online classes categorized as “lecture,” “seminar,” or “laboratory” are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback via the SFS database is aggregated with that of other students enrolled in the course. Students’ anonymity will be protected to the extent that the law allows. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week

Since this class does not have a final exam, but a final class project, the work on the final class project continues into the last week of classes prior to final exams.

Emergency Exit Procedures

Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities. The evacuation plans can be found at http://www.uta.edu/campus-ops/ehs/fire/Evac_Maps_Buildings.php

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381

Safety

Since the homework assignments are mostly based on existing transportation networks, under no circumstances should you go out to the field without the appropriate Personal Protective Equipment (PPE). It is recommended that field visits are arranged through me so that I can inform the appropriate person(s) at the City, provide you with appropriate contact information in case you are questioned by any law enforcement personnel and to assist in providing the appropriate PPE. Your cooperation is greatly appreciated.

SAFETY STARTS WITH YOU!