

University of Florida
Department of Civil and Coastal Engineering

TTE 4201/5256 - TRAFFIC ENGINEERING

Course Description: The purpose of this course is to provide students with an overview of the fundamentals of traffic engineering, with emphasis on field studies, data analysis, level of service, and traffic control devices.

Course Objectives: This course deals with the technical aspects of traffic engineering. It covers the analytical procedures and computational methods employed in a wide variety of tasks related to traffic operations and control. A person who completes this course will be able to identify common operational problems, to carry out traffic engineering studies and to formulate and evaluate alternative solutions.

Instructor: Dr. Scott Washburn
Department of Civil and Coastal Engineering
580-A Weil Hall
Office Hours: Wed, Thur 9:30–11:00 AM, or by appointment
Email: swash@ce.ufl.edu

Meeting Location and Times: Classroom: CSE E122
Tuesday, 5th – 6th periods (11:45 – 1:40)
Thursday, 6th period (12:50 – 1:40)

Course Website: <http://elearning.ufl.edu/>

Student Material:

- **Textbook (optional):** *Principles of Highway Engineering and Traffic Analysis*, 6th Edition Manning and Washburn; Wiley & Sons, Inc.; ISBN 978-1-119-29933-2.
<http://www.wiley.com/WileyCDA/WileyTitle/productCd-1119299330.html>

or Special Version (Chapters 5, 6, 7); EBook only. ISBN # 978-1-119-40118-6. Price: \$22.60.

- See ordering instructions on course website.

Additional References

- Highway Capacity Manual
- Manual on Uniform Traffic Control Devices (MUTCD)
- ITE Manual of Transportation Engineering Studies
- ITE Traffic Engineering Handbook
- Highway Safety Manual

Topics Covered:

- Traffic Stream Parameters and their Measurement
- Statistical Applications
- Traffic Capacity Analysis Concepts
- Freeway Facility Analysis
- Two-Lane Highway Analysis
- Fundamentals of Signal Design and Timing
- Signalized Intersection Analysis
- Actuated Signals and Detection
- Unsignalized Intersection Analysis
- Traffic Control Devices
- Traffic Impact Studies
- Basic Safety Analysis

Grading:

Grades will be given at the end of the semester based only on the work completed during the semester. Only assignments received by the due date/time will be eligible to receive full credit. Assignments will be accepted until the beginning of the next class period (11:45/12:50 PM), but will only be eligible to receive up to 75% of the original maximum. No credit will be given for assignments turned in after that period. It is acceptable to work with other classmates, and even recommended, to assist your learning of the material required to complete the in-class assignments. It is NOT acceptable to copy another person's or group's assignment solution(s).

The following grade distribution will be used for the course:

- In-class assignments - 25%
- Exam 1 - 25%
- Exam 2 - 25%
- Project - 25%

Total Percentage of Available Points	Final Grade
94+ %	A
90-94 %	A-
86-90 %	B+
82-86 %	B
78-82 %	B-
74-78 %	C+
70-74 %	C
66-70 %	C-
62-66 %	D+
58-62 %	D
54-58 %	D-
< 54 %	E

Class Demeanor and Etiquette: This should follow the rules of common sense. Students are encouraged to participate in class discussion and to initiate such discussion whenever they feel that they or the class could benefit from a dialog with the instructor. Other actions that disturb the class are *strongly* discouraged. Use of a laptop for class-related activities is acceptable, but not for non-class activities (e.g., engaging in chat room discussions, E-mail, or surfing the web). ***Cell phones and pagers should be turned off or muted*** (if you need it for potential emergency notification, please see me before class to discuss). There is no official dress code for this class, but please dress appropriately. Again, use common sense--if it is something you typically wear in the bedroom, or on the beach, please do not wear it to class.

University/Class Policies

Honesty Policy: UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor.

Students Requiring Accommodations: Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see:

<http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

Software Use: All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Course Evaluation: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Campus Resources:

Health and Wellness

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575 or visit umatter.ufl.edu to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit counseling.ufl.edu/ or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit shcc.ufl.edu.

University Police Department: Visit police.ufl.edu or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; ufhealth.org/emergency-room-trauma-center.

Academic Resources

E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services career.ufl.edu/.

Library Support: cms.uflib.ufl.edu/ask various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring. teachingcenter.ufl.edu

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. writing.ufl.edu/writing-studio

Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor-codestudent-conduct-code

On-Line Students Complaints: distance.ufl.edu/student-complaint-process