## FLORIDA ATLANTIC UNIVERSITY

### Graduate Programs—NEW COURSE PROPOSAL

**DEPARTMENT NAME:** CIVIL ENGINEERING  
**COLLEGE OF:** ENGINEERING AND COMPUTER SCIENCE

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### RECOMMENDED COURSE IDENTIFICATION:

**PREFIX** TTE  
**COURSE NUMBER** XXXX  
**LAB CODE** (L or C)

**COMPLETE COURSE TITLE:** Highway Traffic Characteristics and Measurement

**EFFECTIVE DATE** (first term course will be offered): FALL 2007

**CREDITS:** 3  
**LAB/DISCUSSION:** N/A  
**TEXTBOOK INFORMATION:** Traffic Engineering Third Edition by Roger R. Prassas E. and McShane W.

**LECTURE:** 3  
**FIELD WORK:** N/A  
**ISBN:** 0-13-142471-8

**GRADING:** REGULAR **X**  
PASS/FAIL  
SATISFACTORY/UNSATISFACTORY

**COURSE DESCRIPTION, NO MORE THAN 3 LINES:** This class is designed to provide the student with advanced traffic operation concepts including the characteristics and functional relationships regarding traffic modeling, and travel demand forecasting methods. Student will be able to evaluate transportation scenarios, and design solutions to improve traffic.

**PREREQUISITES:**

TTE 4005 OR INSTRUCTOR PERMISSION REC'D  
O Check box to enforce*

**COREQUISITES:**

NONE  
O Check box to enforce*

**OTHER REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL):**

O Check box to enforce*

**MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE:** Ph.D in Civil Engineering Concentration in Transportation

Other departments, colleges that might be affected by the new course must be consulted. List entities that have been consulted and attach written comments from each. None –

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**Faculty Contact, Email, Complete Phone Number**

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**SIGNATURES**

**Approved by:**

Department Chair:  
College Curriculum Chair:  
College Dean:  
UGPC Chair:  
Dean, Graduate Studies

**Date:**  
11/2/2007  
11/2/2007  
11/2/2007

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### SUPPORTING MATERIALS

**Syllabus**—must include course objectives.

**Written Consent**—required from all departments affected.

Go to: [http://graduate.fau.edu/ugpc/](http://graduate.fau.edu/ugpc/) to download this form

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* "Enforce" prerequisites or other registration controls adds these restrictions to the course schedule; students whose academic careers do not show these prerequisites or other details will not be able to register. When box is not checked, restrictions show in catalog description only.

Email this form and syllabus to Graduate Studies one week **before** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website by committee members prior to the meeting.
Highway Traffic Characteristics & Measurements

**Description:** This course is designed to provide the student with advanced traffic operation concepts including the characteristics and functional relationships regarding traffic modeling, and travel demand forecasting methods. Students will be able to evaluate transportation Scenario, and design solutions to improve traffic operations.

**Course Number:** TTE XXXX

**Course Prerequisites:** Transportation Engineering II (TTE 4005) or permission of instructor.

**Course Co-requisites:** None

**Courses that require this course as a direct prerequisite:** None

**Specialization:** Traffic modeling and traffic characteristics.

**Special Features:** Exposure to theoretical and experimental research in traffic engineering.

**Credits:** 3


**Course Objectives:** The objective of this course is to provide the students with basic and applied knowledge of traffic characteristics, traffic modeling, and travel demand forecasting. Specifically, the students completing this course will be able to:

- Conceptualize, and solve transportation problems
- Analyze and design traffic signals at isolated intersections by identifying the parameters needed to perform this analysis
- Analyze and design traffic signals for urban road networks
- Investigate different ideas in traffic control via class room discussion, problem sets and semester long project

**Methods of Instruction:** Regular Class with some internet activities using Blackboard

**Topics:** The lecture is based on a sequence of chapters from the textbook and will be supplemented with additional material where necessary including further references and instructor's notes.

1) Vehicle Dynamics, Time-space Diagrams
2) Geometric design, Sight distance, Clear Zones
3) Light Traffic Theory
4) Traffic dynamic, shockwaves, Car Following
5) Isolated Intersections, Actuated Control
6) Probability Theory, Simulation
7) Networks, Equilibrium Analysis
8) Traffic Planning and Operations
Schedule for Films/Videos/In-Class Discussions: N/A

Grading Scheme:
- Homework: 10% (every two weeks)
- Project: 20%
- Mid-Term Exam: 40%
- Final Exam: 30%

Homework, Assignments and other out of Class Activities: One homework every two weeks

Grading Scale: A (95%-100%), A- (90%-94%), B+ (85%-89%), B (81%-85%), B- (76%-80%), C+ (71%-75%), C (67%-71%), C- (62%-66%), D+ (57%-61%), D (52%-56%), D- (45%-51%), F (below 45%)

Instructor:
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