

FLORIDA ATLANTIC UNIVERSITY™

Graduate Programs—NEW COURSE PROPOSAL

UUPC APPROVAL _____
 SCNS SUBMITTAL _____
 CONFIRMED _____
 BANNER POSTED _____
 CATALOG POSTED _____
 WEB POSTED _____

DEPARTMENT NAME : CIVIL, ENVIRONMENTAL AND GEOMATICS ENGINEERING COLLEGE OF: ENGINEERING AND COMPUTER SCIENCE

RECOMMENDED COURSE IDENTIFICATION:
 PREFIX TTE COURSE NUMBER 6651 LAB CODE (L or C) C
 COMPLETE COURSE TITLE: **Sustainable Public Transportation**
 EFFECTIVE DATE (first term course will be offered): **FALL 2011**

INSTRUCTIONAL METHOD (V, BB, IC, EC, ETC.): **BB**

CREDITS: 3	LAB/DISCUSSION: N/A	TEXTBOOK INFORMATION: Urban Public Transportation Systems and Technology by Vuchic, V. V. 1981
LECTURE: 3	FIELD WORK: N/A	ISBN: 0139394966

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

COURSE DESCRIPTION, NO MORE THAN 3 LINES: This class is designed to outline the principles of the transit systems in the urban transportation arena, the functional relationships that govern bus and rail transit operations and design, the issues associated with unbalanced flow and lane control, transportation system management and the railroad economics and policies.

PREREQUISITES: SENIOR OR GRADUATE STATUS, INSTRUCTOR PERMISSION REQ'D <input type="checkbox"/> Check box to enforce*	COREQUISITES: NONE <input type="checkbox"/> Check box to enforce*	OTHER REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL): <input type="checkbox"/> Check box to enforce*
---	--	---

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: **PHD IN CIVIL ENGINEERING/CONCENTRATION IN TRANSPORTATION, PLANNING**

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

EVANGELOS I. KAISAR, PH.D. ASST PROFESSOR, CEGE., EKAISAR@FAU.EDU. 561-297-4084

 Faculty Contact, Email, Complete Phone Number

SIGNATURES

SUPPORTING MATERIALS

<p>Approved by:</p> Department Chair: _____ College Curriculum Chair: _____ College Dean: _____ UGPC Chair: _____ Dean, Graduate Studies _____	<p>Date:</p> _____ _____ _____ _____	<p>Syllabus—must include course objectives.</p> <p>Written Consent—required from all departments affected.</p> <p>Go to: http://graduate.fau.edu/gpc/ to download this form</p>
---	--	--

* "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.

Florida Atlantic University

College of Engineering and Computer Science

Department of Civil, Environmental and Geomatics Engineering

Course Syllabus

Course name: Sustainable Public Transportation

Course number: TTE 6651 (3 cr.)

Prerequisites: Transportation Planning & Logistics (TTE 4005), or permission of instructor

Co-requisites: None

Instructor: Dr. Evangelos I. Kaisar, Assistant Professor
Building 36-214
561-297-4084
ekaisar@fau.edu
M – F 2:00 – 4:00 pm or by appointment
Blackboard@fau.edu

Course Logistics: Fall 2011

TA Contact: TA: TBD

Information: Office Hours: TBD
Phone: TBD
E-mail: TBD

Catalog Description: This course is designed to outline and discuss the principles of the transit systems in the urban transportation arena, the functional relationships that govern bus and rail transit operation and design, the issues associated with unbalanced flow and lane control, transportation system management and the railroad economics and policies.

Course Description, Objectives and Student Learning Outcomes:

The objective of this course is to provide the students with basic and applied knowledge of transportation system management, transit, and public transportation. Specifically, the students completing this course will be able to: a) Ability to conceptualize, and solve transit transportation problems, b) Analyze and design urban operations in the network by identifying the parameters needed to perform this analysis, c) To investigate different ideas in urban transportation via class room discussion, problem sets and semester long project.

The course outcomes are:

- Understand the principles of the transit systems in the transportation arena
- Understand the functional relationships that govern bus and rail transit

- Understand the concepts of unbalanced flow and lane control
- Understand the transportation system management and the railroad economics and policies.
- Experience working with peers in projects to deal with real world problems.

Course Evaluation Method:

An overall course average will be computed for each student. The course average will combine scores from weekly homework assignments, six quizzes, one semester test, final exam and class project. Dates of semester tests will be announced on the first day of lecture. The weights assigned to each component of the final course average are given below.

Grading scheme: Grades will be based on a final course percentage. The final course percentage will be computed as follows:

Homework assignments	10%
Quizzes	10%
Class project(s)	40%
Semester exam(s)	20%
Final exam	20%

Assignments and projects may be submitted online. Online students are expected to take exams with the lecture section; distance learning students must arrange testing through the DEDECS office. Late assignments and projects will be accepted with penalty only until solutions have been posted. It is the student’s responsibility to arrange for alternative testing dates. Late makeup exams will be administered only in documented cases of emergency.

Grading criteria: Final grades will be assigned using a grading scale no stricter than 90–100%: A, 85–90%: A-, 82–84%: B+, 78–81%: B, 75–77%: B-, 72–74%: C+, 68–71%: C, 65–67%: C-, 52–64%: D+, 48–51%: D, 45–47%: D-.

Incomplete grades: A grade of incomplete will be given only under documented, exceptional circumstances, and will be completed in the semester following its issuance.

Classroom etiquette: As this class is being recorded, it is important that students refrain from disruptive or distracting behavior. Also, it is a strict DEDECS policy that no food or drinks are allowed in the studio, and cell phones must be turned off.

Students with disabilities:

The Americans with Disabilities Act (ADA) guidelines will be followed. Any student with a documented disability which may require special accommodations should self-identify to the instructor as early as possible in order to receive

effective and timely accommodations.

Academic integrity: The Academic Integrity policy of the Department of Civil, Environmental and Geomatics Engineering will be enforced; refer to the Department web-site for further details: www.cege.fau.edu.

Required text: Vuchic, V., “Urban Transit, Prentice-Hall, 2009.
available on Blackboard.

Supplementary texts: Wohl, M., and Hendrickson, C., “Transportation Investment and Pricing Principles, John Wiley, 1984.
Wright, P.H. and Ashford. N.J. “Transportation Engineering –Planning and Design.” John Wiley and Sons, Inc., 1989.
Traffic Engineering Handbook, 4th Ed., ITE and Prentice Hall, 1992.
Gray, G., and Hoel, L., “Public Transportation” Prentice-Hall, 1992.

Topics covered:

1. Transit System Characteristics: 2 lectures
2. Basic Microeconomics: 2 lectures
3. System analysis and Evaluation: 2 lectures
4. Signs, Signal Principals and Warrants: 2 lectures
5. Vehicle Motion: 1 lectures
6. Bus Transit: 2 lectures
7. Vehicles and Facilities: 2 lectures
8. Railroad Operation and Management: 3 lectures

Computer usage: Extensive use will be made of simulation and optimization software’s, including MATLAB with the RF Toolbox, micro-meso simulation platforms, LINDO/LINGO, CPLEX/OPL, excel solver, and optimal solver online.. Some are available in downloadable student versions; all are available online and on the networked PC’s in the CEGE’s PC lab and transportation laboratory.