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

**COMPLETE COURSE TITLE:** Sustainable Public Transportation  
**EFFECTIVE DATE** (first term course will be offered):Fall 2011

**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  
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:** 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

**SPECIAL CONSIDERATIONS:**

- **EVANGELOS I. KAISAR, PH.D, ASST PROFESSOR, CEGE., ekaisar@fau.edu, 561-297-4084**

Faculty Contact, Email, Complete Phone Number

**SIGNATURES**

**SUPPORTING MATERIALS**

- **Syllabus**—must include course objectives.
- **Written Consent**—required from all departments affected.

Go to: [http://graduate.fau.edu/gpc/](http://graduate.fau.edu/gpc/) 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.
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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Class project(s)</td>
<td>40%</td>
</tr>
<tr>
<td>Semester exam(s)</td>
<td>20%</td>
</tr>
<tr>
<td>Final exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

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.


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.


**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.