FAMU-FSU College of Engineering
Department of Civil & Environmental Engineering
Transportation Systems Analysis (TTE 5305)
Course Syllabus
Spring 2021

Course Number	Course Section	Course Title:	TTE 5305: Transportation Systems Analysis	
Credit Hours: 3.0		Prerequisites: TTE3004 or equivalent		Semester: Spring 2021
Time: 09:30 AM – 10:45 AM		Days: Tuesday – Thursday		Location: TBA
Instructor Name: Dr. Eren Erman Ozguven			Office Location: SLIGER Room 207	
Office Hours: Tuesday – Thursday 11:00 AM – 12:30 PM or by appointment				
Office Phone Number(s): (850) 410-6146			E-mail Address: eozguven@eng.famu.fsu.edu	
Grading Assistant: NA				
Textbooks: Transportation Systems Analysis: Models and Applications, Cascetta, 2009. Modelling Transport, Ortuzar and Willumsen, 2011. Fundamentals of Transportation and Traffic Operations, Daganzo, 1997.				
Additional References:	Deterministic Operations Research: Models and Methods in Linear Optimization, Rader, 2010. Network Flows: Theory, Algorithms, and Applications, Ahuja, Magnanti, Orlin, 1993. MATLAB for Engineers, Moore, 2011.			

Class Description – This class provides an extensive introduction for complex multi-modal transportation systems and their components with a focus on transportation planning, economics, modeling, investment, operations and maintenance. Topics covered include network analysis, optimization techniques, demand and supply models, simulation practices, planning and forecasting models and other social, political and economic aspects of the transportation system. Emphasis will be given to the tie between the theory and practice with a focus on the sustainability and resiliency of the critical infrastructure.

Class Objectives:

1. To describe complex multi-modal transportation systems with the major focus on the sustainability and resiliency of the critical infrastructure.

2. To analyze conceptual and mathematical foundations for network analysis, simulation, modeling, economics and other transportation-related concepts.

3. To set up and solve real-life engineering problems with the available data sets, such as studying the dynamics of a multi-modal transportation network using traffic simulation and modeling techniques.

4. To use modern software for optimization, data analysis, network analysis, modeling/simulation purposes for transportation engineering applications.

Course Grading Policy	1. Homework Assignments: %20 2. Midterm: %15 3. Projects: %30 4. Final Exam: %25 5. Discussion & Participation: %10
Topic Outline Plan	1. Introduction: 1 class 2. Basic Traffic Flow and Transportation Concepts: 1 class 3. Introduction to MATLAB: 2 classes 4. Multi-modal Transportation Systems: 2 classes 5. Transportation Accessibility: 3 classes 6. Transportation Safety/Traffic Accidents: 2 classes 7. Regression Models in Transportation: 3 classes Midterm Exam 8. Optimization Techniques: 3 classes 9. Network Analysis/Optimization: 2 classes 10. Transportation Networks and Modeling/Simulation: 4 classes 11. Transportation Infrastructure Resiliency: 2 classes 12. Transportation Economics: 2 classes Final Exam
Honor Codes and Policy of Cheating	Students are required to follow the code of their university. The relationship between students and instructors is based upon trust, and the continued maintenance of this trust is necessary for education to be successful. Students need to trust that the instructor has made appropriate judgments as to the content and structure of the course. Instructors need to trust that the work turned in by students represents their own effort. Violation of this trust undermines the educational process. Cheating is dishonest and it will not help anybody toward his/her final goal, which is to become a competent engineer. Cheating implies taking credit for somebody else's work. Cheating on exams and other acts of academic dishonesty will not be tolerated and will be dealt with at the instructor's discretion. Severe violations may (and will) be punished with a failing grade in the course. Please refer to student handbook of each university for more information. **FSU Academic Honor Policy:** The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to ". . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at http://fda.fsu.edu/academic-resources/academic-integrity-and- grievances/academic-honor- policy.)

	FAMU Academic Honor Policy: Please refer to FAMU General Catalog and university web site (http://www.famu.edu) for more information.
Students with Disabilities	The instructor will accommodate any student with a qualifying disability as defined in Section 504 of the Rehabilitation Act of 1973 and the Americans with Disability Act of 1990, and supported by a confirmation statement. FSU students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type. Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from the Student Disability Resource Center has been provided. This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the: Student Disability Resource Center 874 Traditions Way 108 Student Services Building Florida State University Tallahassee, FL 32306-4167 (850) 644-9566 (voice) (850) 644-8504 (TDD) sdrc@admin.fsu.edu http://www.disabilitycenter.fsu.edu. FAMU students with disabilities needing academic accommodations should: (1) register with and provide documentation to the FAMU Office of Special Programs: and (2) bring a letter to the instructor from OSP/SDRC indicating a need for academic accommodations. This should be done within first week of class. For more information about services available to FAMU students with disabilities, contact the: Center for Disability Access and Resources 667 Ardelia Court Florida A & M University Tallahassee, FL 32307, (850) 599-3180 (voice), (850) 561-2783 (TDD) CEDAR@famu.edu http://www.famu.edu/index.cfm?cedar&OURSERVICES.
University Attendance Policy	Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

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<tr><td>General Course Policy</td><td>

The due date for each exam, homework, and project will be announced in advance.
Late assignments, exams and project reports will not be accepted.
All the exams will be take home.
Homeworks and projects will be individual efforts.
Discussion and participation will be graded based on the class attendance and relevant class discussions of the lecture material that will be available ahead of time.
Final grading criteria:

<table>
<tr><th>Final grade scale**, %</th><th>Final grade</th></tr>
<tr><td>90-100</td><td>A</td></tr>
<tr><td>80-89</td><td>B</td></tr>
<tr><td>70-79</td><td>C</td></tr>
<tr><td>60-69</td><td>D</td></tr>
<tr><td><60</td><td>F</td></tr>
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**The course instructor reserves the right to relax the final grading scale.
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<tr><td>Syllabus Change Policy</td><td>Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. Any revisions will be posted in the form of a revised syllabus on CANVAS.</td></tr>
<tr><td>Free Tutoring from FSU</td><td>On-campus tutoring and writing assistance is available for many courses at Florida State University. For more information, visit the Academic Center for Excellence (ACE) Tutoring Services' comprehensive list of on-campus tutoring options at http://ace.fsu.edu/tutoring or contact tutor@fsu.edu. High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.</td></tr>
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