FAU

FLORIDA ATLANTIC UNIVERSITY

COURSE CHANGE REQUEST
Graduate Programs

Department Civil, Environmental & Geomatics Engineering

College College of Engineering & Computer Science

UGPC Approval _____
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner Posted _____
Catalog _____

***Current* Course Prefix and Number**	TTE6815	***Current* Course Title**	Highway Engineering

*Syllabus must be attached for **ANY** changes to current course details. See Guidelines. Please consult and list departments that may be affected by the changes; attach documentation.*

Change title to:

Change prefix

From: **To:**

Change course number

From: **To:**

Change credits*

From: **To:**

Change grading

From: **To:**

*Review Provost Memorandum

Change description to:

Change prerequisites/minimum grades to:

None

Change corequisites to:

None

Change registration controls to:

Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.

Effective Term/Year for Changes: Fall 2019

Terminate course? Effective Term/Year for Termination:

Faculty Contact/Email/Phone Ramesh Teegavarapu, 297-3444

Approved by	***Date***
Department Chair	02/26/2019
College Curriculum Chair	3/11/19
College Dean	3/11/2019
UGPC Chair	
UGC Chair	
Graduate College Dean	
UFS President	
Provost	

Email this form and syllabus to UGPC@fau.edu one week before the UGPC meeting.

FAUchangecourseGR, revised Summer 2018

GRADUATE COLLEGE

MAR 12 2019

Received

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FLORIDA ATLANTIC UNIVERSITY

COLLEGE OF ENGINEERING & COMPUTER SCIENCE
Department of Civil, Environmental and Geomatics Engineering
777 Glades Road, Bldg. #96, 403E
Boca Raton, FL 33431
tel: 561.297.3444

Memorandum

DATE: March 22, 2019

TO: UGPC, Graduate College

FROM: Dr. Ramesh Teegavarapu, Professor and Graduate Program Director, Civil Environmental and Geomatics Engineering (CEGE)

SUBJECT: Requesting for changes in pre-requisites for multiple courses.

CEGE department is request the following changes in the catalog.

Advanced Foundation Engineering (CEG 6105) 3 credits
Existing: Prerequisites: CEG 4012.
Requested Change: Prerequisites: None

Pavement Analysis and Design (CEG 6129) 3 credits
Existing Prerequisites: CEG 3011C, CGN 3501C
Requested Change: Prerequisites: None

Finite Element Methods in Civil Engineering (CES 6119) 3 credits
Existing: Prerequisites: CEG 4012
Requested Change: Prerequisites: None

Airport Planning and Design (TTE 6526) 3 credits
Existing Prerequisites: Permission of instructor
Requested Change: Prerequisites: None

Soli-Stabilization and Geosynthetics (CEG 6124) 3 credits
Existing Prerequisites: CEG 3011C, CGN 3501C
Requested Change: Prerequisites: None

Water Supply Treatment (ENV 6418) 3 credits
Prerequisite: ENV 3001C
Requested Change: Prerequisites: None

WasteWater Engineering (ENV6507) 3 credits
Prerequisites: ENV 3001C
Requested Change: Prerequisites: None

Highway Engineering (TTE6815) 3 credits
Prerequisites: CEG 3011C, CWR 4202 and EGN 3331 or equivalent
Requested Change: Prerequisites: None

Department of Civil Environmental and Geomatics Engineering
Florida Atlantic University
Course Syllabus

1. Course title/number, number of credit hours	
Highway Engineering – TTE 6815	3 credit hours

2. Course prerequisites, corequisites, and where the course fits in the program of study

Prerequisites: None

3. Course logistics

Term: Spring 2017
This is a classroom lecture course with occasional lectures covered through remote learning.
Class location and time: Tuesdays from 7:10 PM to 10:20 PM in CM-125

Credit hour assignments: Lectures – 14 weeks, 170 minutes each week;
Homework assignments – 12 weeks, about 180 minutes each week; Class project – 12 weeks, 120 minutes each week;
Total in-class instruction per credit hour: **56 minutes per week, for 14 weeks**
Total out-of-class assignments per credit hour: **4 hours and 17 minutes per week, for 14 weeks**

4. Instructor contact information

Instructor's name	Dr. Aleksandar Stevanovic, Associate Professor
Office address	Engineering West (EG-36) Bldg., Room 225
Office Hours	T 9:00 -11:00 AM
Contact telephone number	561-297-3743
Email address	astevano@fau.edu

5. TA contact information

TA's name	TBA
Office address	
Office Hours	
Contact telephone number	
Email address	

6. Course description

Fundamental concepts of transportation engineering; multi-modal transportation; traffic and highway engineering; fundamental principles of traffic flow; traffic control; capacity and level of service of signalized intersections; network operations; statistical analysis; route selection including environmental impacts, intersection design.

7. Course objectives/student learning outcomes/program outcomes

Course objectives	A. Introduce students to the fundamental concepts of traffic flows, driver behavior, road design and traffic safety. B. Establish student's understanding of fundamental concepts applied in the analysis, design, modeling and operation of transportation systems. C. Develop students' ability to solve transportation problems involving first order differential equations, probability and statistics, and trigonometry and geometry.

	D. Develop student's ability to relate theory in transportation engineering to real-life applications. E. Prepare students for engineering work in design and management of transportation systems.

8. Course evaluation method

Class project Final exam Homework assignments Class participation	30% 20% 48% 2%	*Note:* The minimum grade required to pass the course is C.

9. Course grading scale

There are not any fix criteria for the grading scale. The overall performance, as related to course objectives and outcomes, is evaluated and considered during grading. Results from course evaluations of the students will be normalized and letter grades are given. The instructor will explain the complete grading scheme and scale in the first class of the course.

10. Policy on makeup tests, late work, and incompletes

Makeup tests are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student of participating in the exam. Makeup exam should be administered and proctored by department personnel unless there are other pre-approved arrangements.

Late homework submissions will get (if 100% correct) only 75% of the original points. Late class project submissions are unacceptable.

Incomplete grades are against the policy of the department. Unless there is solid evidence of medical or otherwise serious emergency situation incomplete grades will not be given.

Assignments are submitted through **Canvas ONLY** and they are always due by 7:00 PM on Tuesdays (just before the class starts). Assignments can be written manually and scanned as a pdf file; or they can be developed in word processing programs (or spreadsheets) and converted to pdf files. **Each assignment should be submitted as a SINGLE pdf file through Canvas.** Late assignments will be accepted but with a penalty – they will be given only 75% of the earned score. **No assignments will be accepted through any other means (email, in-hand, etc.) except through Canvas.**

11. Special course requirements
ACADEMIC SERVICE-LEARNING STATEMENT

Students are supposed to be familiar with basic statistical and programming concepts. They should also be able to use Excel spreadsheets and Matlab to perform basic mathematical and statistical computations and report results through charts and tables.

12. Classroom etiquette policy

University policy requires that in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones and laptops, are to be disabled in class sessions.

13. Attendance Policy Statement

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance.

Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

14. Disability Policy Statement

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

15. Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to http://www.fau.edu/counseling/

16. Code of Academic Integrity Policy Statement

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001. If your college has particular policies relating to cheating and plagiarism, state so here or provide a link to the full policy—but be sure the college policy does not conflict with the University Regulation.

17. Required texts/reading

No required textbooks

18. Supplementary/recommended readings

1. "Traffic Engineering" by Roess, Prassas & McShane, 4th edition, Pearson.
2. "Traffic Flow Fundamentals" by A. May, Prentice Hall Inc, 1990.
3. "Optimal Traffic Control: Urban Intersections" by S. Guberinic, G. Senborn, and B. Lazic. CRC Press.
4. "Fundamentals of Transportation and Traffic Operations" by C. Daganzo, Emerald.
5. "Traffic Flow Theory – A State-of-the-art Report" by multiple authors, Special TRB report. https://www.fhwa.dot.gov/publications/research/operations/tft/
6. "Signal Timing Manual" NCHRP Report 812, KAI, KHA, Texas A&M TI, Purdue University http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_812.pdf

7. "Scientific Approaches to Transportation Research", NCHRP Report 20-45, by S. Washington, J. Leonard, D. Manning, C. Roberts, B. Williams, A. Bacchus, A. Devanhalli, J. Ogle, D. Melcher http://onlinepubs.trb.org/onlinepubs/nchrp/cd-22/start.htm

19. Course topical outline, including dates for exams/quizzes, papers, completion of reading

Date	Topic
Week 1	Course introduction, syllabus, independent readings and summary of conference activities.
	MODULE I: Research Methodology in Transportation
Week 2	Overview of Scientific Approaches to Transportation Research Assignment 1 given*
Week 3	Expectations and Practices in Transportation Research Environment Assignment 2 given; Assignment 1 due**
	MODULE II: Concepts Used in Traffic Flow Theory
Week 4	Vehicular Trajectories/Time-Space Diagrams; Queuing Theory/Cumulative Plots Assignment 3 given; Assignment 2 due
Week 5	Queuing Theory/Cumulative Plots; Optimization Assignment 4 given; Assignment 3 due
	MODULE III: Traffic Flow Theory
Week 6	Fundamental Traffic Flow Relationships Assignment 5 given; Assignment 4 due
Week 7	Microscopic and Macroscopic Characteristics of Traffic Flows Assignment 6 given; Assignment 5 due
Week 8	Shockwave and Bottleneck Analyses Assignment 7 given; Assignment 6 due
Week 9	Spring Break.
	MODULE IV: Traffic Control Theory
Week 10	Traffic Control Problem and Graph Theory Assignment 8 given; Assignment 7 due
Week 11	Traffic Signal Systems Assignment 9 given; Assignment 8 due
	MODULE V: Traffic Data Measurements and Analysis
Week 12	Statistical Inference: Interval Estimation, Hypothesis Testing, and Population Comparisons Assignment 10 given; Assignment 9 due
Week 13	Continuous Dependent Variable Models Assignment 11 given; Assignment 10 due
Week 14	Count and Discrete Dependent Variable Models Assignment 12 given; Assignment 11 due
Week 15	Preparation for the final exam. Assignment 12 due
	Final Exam

* Assignments are officially given after each class on Tuesday (Canvas link opens at 10:00 PM)
** Assignments are due by beginning of class on following Tuesday (7:00 PM)