



**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 _____

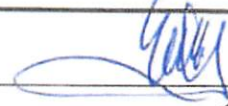
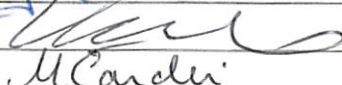
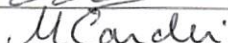
Current Course Prefix and Number CEG6124 **Current Course Title**
Soil Stabilization and Geosynthetics

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.

<p>Change title to:</p> <p>Change prefix From: To:</p> <p>Change course number From: To:</p> <p>Change credits* From: To:</p> <p>Change grading From: To:</p> <p><small>*Review Provost Memorandum</small></p>	<p>Change description to:</p> <p>Change prerequisites/minimum grades to: None</p> <p>Change corequisites to: None</p> <p>Change registration controls to:</p> <p>Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.</p>
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Effective Term/Year for Changes: Fall 2019	Terminate course? Effective Term/Year for Termination:
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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.

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

1. Course title/number, number of credit hours	
Soil Stabilization and Geosynthetics – CEG 6124	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 lecture course. Class location and time: M: 7:10-10 PM; FL 401	
4. Instructor contact information	
Instructor's name	Dr. K. Sobhan, Professor
Office address	Engineering West (EG-36) Bldg., Room 221
Office Hours	T-R 11:00 -1:00 PM
Contact telephone number	561-297-3473
Email address	ksobhan@fau.edu
5. TA contact information	
TA's name	NA
Office address	
Office Hours	
Contact telephone number	
Email address	
6. Course description	
Soil chemistry, mineralogy and properties; techniques of soil reinforcement, soil improvement, and soil treatment; chemical stabilization; mechanical stabilization; designing with geosynthetics; foundations and pavement applications.	
7. Course objectives/student learning outcomes/program outcomes	
Course objectives	<ul style="list-style-type: none"> A. To understand the definition and significance of ground improvement B. To learn various methods and mechanisms of ground improvement C. To quantify the effects of stabilization on soil properties D. To learn about the fundamentals of ground improvement with geosynthetics E. To learn the design methods for selected ground improvement techniques in foundations and pavement applications
Student learning outcomes & relationship to ABET a-k objectives	<ul style="list-style-type: none"> I. Ability to understand the need and significance of ground improvement and soil stabilization (a,b,e,f) II. Ability to select appropriate ground improvement solutions under various site specific conditions (a,b,c,f,h)

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	<p>III. Ability to perform analysis and design with selected ground improvement methods (a,b,c,d,f)</p> <p>IV. Ability to perform analysis and design with geosynthetics in selected foundations, slopes and pavement applications (a,b,c,f,g,h)</p>
8. Course evaluation method	
<p>Mid Term Exam: 30%</p> <p>Research Project: 30%</p> <p>Final Exam: 40%</p>	<p><i>Note:</i> The minimum grade required to pass the course is C.</p>
9. Course grading scale	
<p>There is no fixed criterion for the grading scale. The overall performance as related to course objectives and outcomes is evaluated and considered during grading.</p>	
10. Policy on makeup tests, late work, and incompletes	
<p><i>Makeup tests</i> 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.</p> <p><i>Late work</i> is not acceptable.</p> <p><i>Incomplete grades</i> 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.</p>	
11. Special course requirements	
<p>None</p>	
12. Classroom etiquette policy	
<p>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.</p>	
13. Disability policy statement	
<p>In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) located in Boca Raton campus, SU 133 (561) 297-3880 and follow all OSD procedures.</p>	
14. Honor code policy	
<p>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 unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and place high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. See University Regulation 4.001 at www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf</p>	

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15. Required texts/reading

Principles and Practice of Ground Improvement by Jie Han, ISBN: 978-1-118-25991-7, WILEY, 2015

16. Supplementary/recommended readings

Principles of Foundation Engineering, Eighth Edition, B. M. Das, Cengage Learning, 2014
Designing with Geosynthetics, by Robert M Koerner, Fifth Edn., Pearson, 2005
Ground Improvement, Ground Reinforcement, Ground Treatment, ASCE Geotechnical Special Publication 69, Edited by Vernon R. Schaefer, 1997
Reinforcement of Earth Slopes and Embankments, NCHRP 290, 1987
Soil Improvement – A 10 Year Update, ASCE Geotechnical Special Publication No. 12, 1987
Engineering Principles of Ground Modification, by M. R. Hausmann, McGraw Hill, 1990

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

Topics:

Introduction
Ground Modification: Significance, Principles and Definitions
Fundamental Concepts in Soil Mechanics Ground
Modification: Methods and Mechanics
Chemical Stabilization
Mechanical Stabilization
Soil Reinforcement: Mechanically Stabilized Earth (MSE) Walls, Fiber reinforced soil Ground Anchors
Designing with geosynthetics
Selected case histories