Fau

FLORIDA ATLANTIC UNIVERSITY

NEW COURSE PROPOSAL Undergraduate Programs

Department Civil, Environmental and Geomatics Engineering

College Engineering and Computer Science (To obtain a course number, contact **erudolph@fau.edu**

UUPC Approval <u>12-2-24</u>
UFS Approval
SCNS Submittal
Confirmed
Banner Posted
Catalog

(1	o obtain a course number, co	maci erudoipii@iau.e i	Ju)		
Prefix CGN	(L = Lab Course; C = Combined Lecture/Lab;	Type of Course	Course Title		
Number	add if appropriate)	Lecture	Sustainable C Methods	onstr	ruction Materials and
Number 4523	Lab		Methods		
	Code				
Credits (See Definition of a Credit Hour)	Grading (Select One Option)	Course Description (Syllabus must be attached; see <u>Template</u> and <u>Guidelines</u>) Concepts of sustainability in civil engineering construction; sustainability			
3	Regular •	assessment tools and methods; recycled materials characterization; materials selection for sustainability; designing for resiliency and long-term preservation; green building, waste management, circular economy; and resource conservation			
Effective Date (TERM & YEAR) Spring 2026	Sat/UnSat				
Prerequisites, wit	th minimum	Corequisites			tration Controls (Major,
grade* CEG 3011C, CGN 3501C		1477		Jollege,	, Level)
*Default minimum passing grade is D Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course					
WAC/Gordon Rule Course		Intellectual Foundations Program (General Education) Requirement (Select One Option)			
Yes ✓ No					
		None			
WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See WAC Guidelines .		General Education criteria must be indicated in the syllabus and approval attached to the proposal. See Intellectual Foundations Guidelines .			
Minimum qualifications to teach course					
PhD Civil Engineering					
Faculty Contact/Email/Phone		List/Attach comments from departments affected by new course			
Dr.Khaled Sobhan ksobhan@fau.edu					
Approved by	Eu	angelos Kai	isar		Date ///18/2024
Department Chair					
College Curriculum C	hair Galan Lo	ii			1112112624
College Dean	1/1/8				112124
UUPC Chair ——	Korey Jorg				12-2-24
Undergraduate Studies Dean Dan Mesroff 12-2-24					12-2-24
UFS President					
Provost					

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.



TA name	NA
Office	NA
Office hours	NA
Telephone	NA
Email	NA

Course Description

Concepts of sustainability in civil engineering construction; sustainability assessment tools and methods; recycled materials characterization; materials selection for sustainability; designing for resiliency and long-term preservation; green building, waste management, circular economy; and resource conservation.

Instructional Method

In-person class. Live online lecture. All exams will be in-person.

Prerequisites/Corequisites

CEG 3011C, CGN 3501C

Course Objectives/Student Learning Outcomes

Course Objectives

- A. Introduce the concepts of sustainability in civil engineering construction
- B. Introduce recycled and alternative materials in construction
- C. Characterization of long-term behavior for infrastructure preservation
- D. Introduce various sustainability assessment tools, software and methods
- E. Practical design examples focusing on sustainability in the built environment
- F. Develop strategies for implementing sustainable practices in construction projects

Learning Outcomes

- 1. Understanding the principles of sustainable construction and its importance in the built environment
- 2. Ability to evaluate and select sustainable materials for various construction applications
- 3. Ability to apply sustainable construction techniques in building design and construction
- 4. Analyze the environmental impact of different construction materials and methods

5. Apply circular economy principles to construction projects, minimizing waste and maximizing resource efficiency.

Course Evaluation Method and Grading Scale

Mid Term Exam	25%
Research Project Part A	15%
Research Project Part B	15%
Quizzes and Homework	10%
Final Exam	35%

Policy on Makeup Tests, Late Work, and Incompletes (if applicable)

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 work is not acceptable.

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.

Special Course Requirements (if applicable)

None

Classroom Etiquette Policy (if applicable)

If you have a particular policy relating to student behavior in the class, such as relating to tardiness or on the use of electronic devices in the classroom, state so here. Recognizing the unique relationship between faculty and student and adhering to the principles of academic responsibility, any such policies must be reasonable, non-discriminatory and not impede the educational mission.

Policy on the Recording of Lectures

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Attendance Policy

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.

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/

Disability Policy

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/.

Code of Academic Integrity

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*.

Required Texts/Readings

None. Lecture notes and resources

Supplementary/Recommended Readings

None

Topical Outline

Date		Торіс
Week 1: Topic 1	1.	Sustainability: Introduction, definition; examples
Week 2: Topic 2	2.	Sustainability in the built environment; materials and
Week 3: Topic 3		methods
	3.	Recycled and alternative materials: identification
Week 4: Topic 4		Research Project PART A
Week 5: Topic 5	4.	Recycled and alternative materials: characterization
	5.	Recycled and alternative materials: selection and design
Week 6: Topic 6		MIDTERM
Week 7: Topic 7	6.	Sustainability assessment tools and software
	7.	Design examples for sustainable construction practices
Week 8: Topic 8		Research Project PART B
Week 9: Topic 9	8.	Circular economy principles in construction projects,
Week 10: Topic 10		minimizing waste and maximizing resource efficiency.
	9.	Strategies for sustainable construction
	10.	Project presentation and final exam