

 FLORIDA ATLANTIC UNIVERSITY	COURSE CHANGE REQUEST Undergraduate Programs		UUPC Approval <u>2-1-21</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department Computer & Electrical Eng & Comp Sci College Engineering & Comp Science		
Current Course Prefix and Number EGN 4950C		Current Course Title RI: Engineering Design 1	
<i>Syllabus must be attached for ANY changes to current course details. See Checklist. Please consult and list departments that may be affected by the changes; attach documentation.</i>			
Change title to: Change prefix From: _____ To: _____ Change course number From: _____ To: _____ Change credits* From: _____ To: _____ Change grading From: _____ To: _____ Change WAC/Gordon Rule status** Add <input type="checkbox"/> Remove <input type="checkbox"/> Change General Education Requirements*** Add <input type="checkbox"/> Remove <input type="checkbox"/> <small>*Review Provost Memorandum</small> <small>**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See WAC Guidelines.</small> <small>***General Education criteria must be indicated in syllabus and approval attached to this form. See GE Guidelines.</small>		Change description to: Students develop and present proposals for capstone design projects to be completed in EGN 4952C. Work in interdisciplinary teams is required. Topics include local and global impacts of computing and engineering solutions, multiple constraints, lifelong learning, and ethics. This is a research intensive (RI) course and an Academic Change prerequisites/minimum grades to: CDA 3331C AND STA 4821 AND (CEN 4010 OR EEL 4119L) all with minimum grades of "C" Change corequisites to: Change registration controls to: Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).	
Effective Term/Year for Changes: Fall 2021		Terminate course? Effective Term/Year for Termination:	
Faculty Contact/Email/Phone Hari Kalva, hkalva@fau.edu, 561-297-0511			
Approved by Department Chair <u>Hanqi Zhuang</u> College Curriculum Chair <u>[Signature]</u> College Dean <u>Frederick Bloetscher</u> UUPC Chair <u>Jerry Haky</u> Undergraduate Studies Dean <u>Edward Pratt</u> UFS President _____ Provost _____		Date <u>11-23-20</u> <u>1-29-21</u> <u>1-29-21</u> <u>2-2-21</u> <u>2-2-21</u> _____ _____	

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

**Dept. Computer & Electrical Engineering & Computer Science
Florida Atlantic University
Course Syllabus**

1. Course title/number, number of credit hours	
RI: ENG 4950C Engineering Design I	3 credit hours
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisites: CDA 3331C AND STA 4821 AND (CEN 4010 OR EEL 4119L) all with minimum grades of "C"	
3. Course logistics	
Term: Summer 2020 This is a capstone design course with design and implementation components Class location and time: TBA	
4. Instructor contact information	
Instructor's name Office address Office Hours Contact telephone number Email address	Dr. Hanqi Zhuang, Professor Engineering East Bldg., Room 403A TBA 561-297-3413/561-756-5372© zhuang@fau.edu
5. TA contact information	
TA's name Office address Office Hours Contact telephone number Email address	Avijit Das <adas2017@fau.edu>
6. Course description	
Three-CREDITS. Students develop and present proposals for capstone design projects to be completed in EGN 4952C. Work in interdisciplinary teams is required. Topics include local and global impacts of computing and engineering solutions, multiple constraints, lifelong learning, and ethics. This is a research-intensive (RI) course and an Academic Service Learning (ASL) course.	
7. Course objectives/student learning outcomes/program outcomes	
Course objectives	This course is designed to have the students work in a team environment to design an engineering system. It will foster creative thinking, diversified background exposure, teamwork, communication, and collaboration skills. Students will also be exposed to be held accountable for professional issues, standards, design constraints, and practices not covered in other classes.
Student learning outcomes & relationship to ABET 1-7 objectives	Covers objectives (2, 3, 4, 5, 7) in CE/EE. Cover equivalent objectives in CS.
8. Course evaluation method	
1. Individual Assignments 45% 2. Group Assignments 45% 3. Discretion 10%	See Canvas for detailed breakdown and assignment deadlines. A summary is given at the last page. Note: This is a project-based course, therefore there is no online test.
9. Course grading scale	

**Dept. Computer & Electrical Engineering & Computer Science
Florida Atlantic University
Course Syllabus**

90 and above: "A-, A", 80-89: "B-, B, B+", 60-79: "C-, C, C+", 40-59: "D-, D, D+", 0-39: F.
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
N/A
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
<p>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.</p> <p>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.</p>
14. Disability policy statement
In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation 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.
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

**Dept. Computer & Electrical Engineering & Computer Science
Florida Atlantic University
Course Syllabus**

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 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. For more information, see University Regulation 4.001

17. Required texts/reading

Notes posted on Canvas and linked resources

18. Supplementary/recommended readings

None

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

1. Design process and its applications
2. Creativity and problem solving
3. Team building
4. Proposal preparation
5. Communication skills and practices (proposal and report writing, oral presentation)
6. Functional requirements with multiple constraints
7. Project planning and management
8. Engineering ethics
9. Safety, hazard, environmental considerations
10. Local and global impacts of computing/engineering solutions
11. Engineering patents, economics, and marketability
12. Life-long learning

Dates for all assignments are given in the Canvas. Please follow Canvas course schedule closely.

Possible Presentation Topics (Group Assignment):

1. Intellectual property and innovation
2. Professional ethics and responsibilities
3. Communication skills
4. Creativity and problem solving
5. Design processes
6. Standards and design constraints
7. Life-long learning
8. Patent application and patent search
9. Bluetooth
10. Sensors (e.g., Accelerometers)
11. Amazon Web Service (AWS)
12. Intel AI stick
13. Nvidia AI board
14. Motor technology
15. Raspberry PI

**Dept. Computer & Electrical Engineering & Computer Science
Florida Atlantic University
Course Syllabus**

16. Drones and robots
17. Self-driving cars and transportation of the future
18. Artificial intelligence and its impact to society
19. Biomedical enhancement
20. Alternative energy
21. Topic of your choice – subject to an approval by the instructor

Note for selecting a project topic from the list:

Each group must submit 3 subject choices, one of which must be from topics 1-8 and another from 9-15. The instructor will assign a topic for each group afterward.

Assignments and Event Schedule

Note:

- Important assignments are in red, and important events are in blue
- There will be 3-4 of individual group meetings with the instructor
- Many assignments will lead to the final project proposals

Due Day (All on Canvas Assignment page)	Event	Notes
on Canvas	ED1 Introduction/ Grouping	Virtual classroom
on Canvas	Engineering Challenge	Individual assignment
on Canvas	Review ED1 Proposal Samples	Individual assignment
on Canvas	Practicing Creative Thinking	Individual assignment
on Canvas	Review of Presentation 1 and 2	Individual assignment
on Canvas	Sensor Selections for Problems	Individual assignment
on Canvas	Voting Mini-Project Winners	Individual assignment
on Canvas	Peer Eval. of Mini-Project Members	Individual assignment
on Canvas	PCB Design (EE/CE) or App (CS)	Individual assignment
on Canvas	Patent Search	Individual assignment
on Canvas	Peer Eval. of Main Project Members	Individual assignment
on Canvas	Research Presentation	Mini-project group
on Canvas	Mini-Project Demo	Mini-project group
on Canvas	Main Project Grouping	Virtual classroom
on Canvas	Main Project Idea	Main project group
on Canvas	Functional Requirement	Main project group
on Canvas	Project Development Milestone	Main project group
on Canvas	Project Proposal Draft	Main project group
on Canvas	Project Proposal	Main project group