FLORIDA ATLANTIC UNIVERSITY

COURSE CHANGE REQUEST
Undergraduate Programs

Department Electrical Engineering and Comp Science

College Engineering and Computer Science

UUPC Approval 10-11-21
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner Posted _____
Catalog _____

***Current* Course Prefix and Number**	EEL 4652	***Current* Course Title**	Control Systems 1

*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.*

Change title to:

Change prefix

From: **To:**

Change course number

From: 4652 **To:** 4652C

Change credits*

From: **To:**

Change grading

From: **To:**

Change WAC/Gordon Rule status**

Add ☐ **Remove** ☐

Change General Education Requirements***

Add ☐ **Remove** ☐

*Review Provost Memorandum

**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See WAC Guidelines.

***General Education criteria must be indicated in syllabus and approval attached to this form. See GE Guidelines.

Change description to:

Please see attached syllabus for new course description.

Change prerequisites/minimum grades to:

EEL 3514 AND MAP 3305 with "C" or better

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:	Spring 2022	**Terminate course? Effective Term/Year for Termination:**	

Faculty Contact/Email/Phone Hanqi Zhuang, zhuang@fau.edu, 561-297-3413

Approved by	***Date***
Department Chair	9/23/2021
College Curriculum Chair Dan Meeroff	10-4-21
College Dean Fred Bloetscher	10-4-21
UUPC Chair Dan Meeroff	10-11-21
Undergraduate Studies Dean Edward Pratt	10-11-21
UFS President	
Provost	

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

Department of Electrical Engineering and Computer Science
Florida Atlantic University
Course Syllabus

1. Course title/number, number of credit hours	
Control Systems I – EEL 4652C	3 credit hours
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisite: EEL 3514 AND MAP 3305 with "C" or better	
3. Course logistics	
Term: TBD *Class location and time:*	
4. Instructor contact information	
Instructor's name *Office address* *Office Hours* *Contact telephone number* *Email address*	TBD
5. TA contact information	
TA's name *Office address* *Office Hours* *Contact telephone number* *Email address*	TBD
6. Course description	
Theory and Hands-on Practice of Classical Control: Stability, Transient and Steady-State Performance, Controller Design Techniques, Simulations and Computer-Aided System Design; Lab experiments of Digital Control using Microcontrollers.	
7. Course objectives/student learning outcomes/program outcomes	
Course objectives	Students will be able to: o Analyze Using block diagrams and Signal Flow Graphs o Understand Transient and Steady State Concepts o Analyze Using Root Locus Methods o Understand multi-approaches to stability and margins o Use Frequency response o Design Control Systems o Use State Variables
Student learning outcomes & relationship to ABET 1-7 outcomes	1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. (Problem solving) 2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors. (Design)
8. Course evaluation method	

Three Tests: 60% Test #1 Test #2 Test #3 Final Exam: 40%	

9. Course grading scale

Grading Scale:
90 and above: "A", 88-89: "A-", 86-87: "B+", 80-85: "B", 78-79 : "B-", 76-77: "C+", 70-75: "C", 68-69: "C-", 66-67: "D+", 60-65: "D", 58-59: "D-", 58 and below: "F."

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

Late Assignments Policy –

Make-up Policy for Tests: Makeup tests are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student from participating in the exam.

Incomplete Grade Policy Incomplete grades are against the policy of the department. Unless there is solid evidence of a medical or otherwise serious emergency situation and the student is currently passing the class, incomplete grades will not be given.

11. Special course requirements

TBD

12. Classroom etiquette policy

To enhance and maintain a productive atmosphere for learning, personal communication devices such as cell phones are to be disabled during 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. After two full weeks of face to face instruction with consecutive 'no show' of any students in person in the classroom, the modality of this course section may be changed to remote instruction only at the discretion of the university.

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 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

Textbook: Control Systems Engineering, 7th Edition, Norman S. Nise, ISBN-13: 978-1118170519

18. Supplementary/recommended readings

TBD

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

- Basic Concepts: Laplace Transform, Transfer Functions, Block Diagrams, Feedback, Transient Response
- MATLAB Control Systems Toolbox
- Stability of Feedback Systems
- Steady-State Tracking Error
- PID Control Tuning
- Controller Design and Computer-Aided Design by Root Locus and Bode Plots
- State-Variables and Simulink Simulation of Linear and Nonlinear Control Systems
- Control Case Studies such as Aircraft Landing Control and Control of Simulated Car
- Basics of Digital Control and Microcontrollers - Lab Experiments and Project.