

 FLORIDA ATLANTIC UNIVERSITY	COURSE CHANGE REQUEST Graduate Programs		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner _____ Catalog _____
	Department CEECS College Engineering and Computer Science		
Current Course Prefix and Number EEL 5256	Current Course Title Power System Analysis and Control		
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: _____ Academic Service Learning (ASL) ** Add <input type="checkbox"/> Remove <input type="checkbox"/>		Change description to: Change prerequisites/minimum grades to: Graduate standing Change corequisites to: Change registration controls to:	
* Review Provost Memorandum ** Academic Service Learning statement must be indicated in syllabus and approval attached to this form.		Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.	
Effective Term/Year for Changes: Spring 2021	Terminate course? Effective Term/Year for Termination:		
Faculty Contact/Email/Phone Hanqi Zhuang/zuang@fau.edu/ 297-3413			
Approved by Department Chair _____ Hanqi Zhuang <small>Digitally signed by Hanqi Zhuang Date: 2020.10.21 15:52:10 -04'00'</small> College Curriculum Chair _____ Francisco Presuel-Moreno <small>Digitally signed by Francisco Presuel-Moreno DN: cn=Francisco Presuel-Moreno, o=Florida Atlantic University, ou=Ocean and Mechanical Engineering, email=fpresuel@fau.edu, c=US Date: 2020.10.22 11:56:29 -04'00'</small> College Dean _____ <i>M. Cardei</i> <small>Digitally signed by M. Cardei DN: cn=M. Cardei, o=Florida Atlantic University, ou= email=mcardei@fau.edu, c=US Date: 2020.10.25 19:53:57 -04'00'</small> UGPC Chair _____ UGC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____		Date _____ _____ 10/25/2020 _____ _____ _____ _____	

Email this form and syllabus to UGPC@fau.edu 10 days before the UGPC meeting.

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

1. Course title/number, number of credit hours	
Power System Analysis and Control (EEL 5256)	3 credit hours
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisites: Graduate standing	
3. Course logistics	
Term: TBA Class location and time: TBA	
4. Instructor contact information	
Instructor's name Office address Office Hours Contact telephone number Email address	Dr. Zhen Ni EE 436 TBA 561 297 0035 zhenni@fau.edu
5. TA contact information	
TA's name Office address Office Hours Contact telephone number Email address	
6. Course description	
Study of the fundamentals of power grid, such as phasor, transformers, transmission line, power flow and symmetrical faults.	
7. Course objectives/student learning outcomes/program outcomes	
Course objectives	<ul style="list-style-type: none"> • Acquaint electric power engineering students with power generation systems, their operation in an economic model, and their control • Introduce students the important power system characteristics of generation, operation and control • Introduce mathematical optimization methods and apply them to practical operation problems • Introduce methods for solving complicated problems involving both economic analysis and network analysis and illustrate these techniques with relatively simple problems • Introduce methods that are used in modern control systems for power generation systems • Introduce "current topics": power system operation areas that are undergoing significant, evolutionary changes
Student learning outcomes & relationship to ABET 1-7 outcomes	

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8. Course evaluation method		
Homework -	20%	<p><i>The instructor reserves the right to adjust the percentage weight within each category by up to 10%.</i></p> <p><i>No late homework/assignment accepted.</i></p> <p><u><i>Exams are scheduled on Thursday ONLY. Room will be announced before each exam. Please make your best effort to come! If the class changes to online format, new guidance will be provided.</i></u></p>
Programming Assignment -	30%	
Mid-term Exam -	20%	
Final Exam -	30%	
9. Course grading scale		
<p>Grading Scale: [90, 100] A, [85, 90) A-, [80, 85) B+, [75, 80) B, [70, 75) B-, [67, 70) C+, [63, 67) C, [60, 63) C-, and others, F.</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 exams will be administered and proctored by department personnel unless there are other pre-approved arrangements</p> <p><i>Late work</i> is not accepted.</p> <p>A grade of <i>incomplete</i> will be assigned only in the case of solid evidence of medical or otherwise serious emergency situation.</p> <p>No extra work will be assigned to improve course grade.</p>		
11. Special course requirements		
<p>Students must be able to access the course material, submit assignments, and take quizzes and exams on Canvas.</p> <p>All assignments must be submitted via the assignment page on Canvas. Submissions by email, hardcopy, or other means are not accepted.</p>		
12. Classroom etiquette policy		
<p>All materials will be posted on Canvas. Students should log in at least two times per week to make sure they are up to date with announcements, postings, and assignments</p>		

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Due to the casual communication common in the online environment, students are sometimes tempted to relax their grammar, spelling, and/or professionalism; however, remember you are adult students and professionals—your communication should be appropriate. You are expected to use correct spelling and grammar and write in complete sentences. Also, please note that in the online environment you do not have the advantage of voice inflection or gestures. As a result, sarcasm can come across very negative, so this form of communication should be avoided. When conducting peer reviews or responding to classmates' posts, remember that you are responding to the ideas of the writer: keep your communication professional and on-topic.

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

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To reduce costs for our students, we strongly encourage you to explore the adoption of open educational resources (OER), textbooks and other materials that are freely accessible. We also encourage you to clearly state in the syllabus if course materials are available on reserve in the Library.

Power Generation, Operation, and Control, 3rd Edition
Allen J. Wood, Bruce F. Wollenberg, Gerald B. Sheblé

ISBN: 978-0-471-79055-6 November 2013

18. Supplementary/recommended readings

NA

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

Tentative topics:

- Introduction to Power Systems
- Overview of Power System Modeling and Operation
- Power Flow
- Sparse Matrices in Power System Analysis
- Sensitivity Analysis and Equivalents
- Power System Data Analytics and Visualization
- Optimal Power Flow and Power Markets
- Power System State Estimation
- High Impact, Low Frequency Events