

Department Name and Number _____

Recommended SCNS Course Identification

Prefix ____ Level ____ Course Number ____ Lab Code ____

Full Course Title _____

Transcript Title (please limit to 21 characters) _____

Effective Term and Year _____ Rotating Topic yes no

Amount of Credit ____ Contact Hour: Base ____ or Headcount ____ S/U Only yes no

Repeatable Credit yes no If yes, ____ total repeatable credit allowed

Variable Credit yes no If yes, ____ minimum and ____ maximum credits per semester

Course Description (50 words or less)

| | |
|---------------|---------------|
| Prerequisites | Co-requisites |
|---------------|---------------|

Degree Type (mark all that apply) Baccalaureate Graduate Professional Other _____

Category of Instruction Introductory Intermediate Advanced

Rationale and place in curriculum

| | | | |
|--------------------|------|-------|-------|
| Department Contact | Name | Phone | Email |
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| College Contact | Name | Phone | Email |
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EEL 4251 Power System Analysis

1. Catalog Description – (3 credits) Development of power system equivalents by phase network analysis, load flow, symmetrical components, sequence networks, and fault analysis.
2. Pre-requisites – EEL 3211
3. Course Objectives - To provide students with a complete overview of interconnected power system operation. At the completion of the course students should be able to develop appropriate models for an interconnected power system, and know how to perform power flow and short circuit analysis. Students should also be able to write a basic power flow computer program.S
4. Contribution of course to meeting the professional component (ABET only – undergraduate courses) – 1.5 semester hours of engineering science, 1.5 hours of engineering design.
5. Relationship of course to program outcomes: Skills student will develop in this course (ABET only undergraduate courses) - EE2, a, c, e, k
6. Instructor – Dr. Henry Zmuda
 - a. Office location: 225 Larsen Hall
 - b. Telephone: 392-0990
 - c. E-mail address: zmuda@ece.ufl.edu
 - d. Class Web site: E-Learning (Sakai)
 - e. Office hours: 9:00 am – 10:00 am Monday & Wednesday
7. Teaching Assistant - TBD
 - a. Office location:
 - b. Telephone:
 - c. E-mail address:
 - d. Office hours:
8. Meeting Times - Tuesday 4th period, Thursday 4th, 5th periods
9. Class/laboratory schedule – Two lecture periods each week totaling 150 minutes
10. Meeting Location – 330 Larsen
11. Material and Supply Fees - None
12. Textbooks and Software Required -
 - a. Title: Power Systems Analysis and Design, 5th edition
 - b. Author: J.D. Glover, M.S. Sarma, and T.J. Overbye
 - c. Publication date and edition: Cengage Learning, 2012, 5th edition
 - d. ISBN number: 978-1-111-42577-7

13. Recommended Reading - None

14. Course Outline (provide topics covered by week or by class period) –

| Topics | Approx. # of Hours |
|--|-------------------------------|
| Introduction, review of three-phase power | 3 |
| Transmission-line parameter computation & transmission-line modeling | 5 |
| Exam 1 | 1 |
| Transformer, generator, and load modeling | 3 |
| Power flow analysis | 9 |
| Exam 2 | 1 |
| Generation Control, economic dispatch and restructuring | 6 |
| Transient stability | 4 |
| Exam 3 | 1 |
| Short circuit analysis, including symmetrical components | 6 |
| System protection | 3 |
| Exam 4 | 1 |

15. Attendance and Expectations - In order to complete the homeworks, some simple programming skills are required. Cell phones and other electronic devices are to be silenced. No text messaging during class or exams.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

16. Grading –

- Four in-class exams (20% each) 80%
- Homework 20%

17. Grading Scale (e.g., 90-100 A, 85-89 B+, 80-84 B, etc.) If grades are to be curved, so state. Values should not overlap and the full grade to percentage/points map must be included. –

| | | | | | | | | | | | |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | E |
| 93-100 | 90-92 | 87-89 | 83-86 | 80-82 | 77-79 | 73-76 | 70-72 | 67-69 | 63-66 | 60-62 | 0-59 |

“A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better).”

Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

18. Make-Up Exam Policy - If you have a University-approved excuse and arrange for it in advance, or in case of documented emergency, a make-up exam will be allowed and

arrangements can be made for making up missed work. University attendance policies can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Otherwise, make-up exams will be considered only in extraordinary cases, and must be taken before the scheduled exam. The student must submit a written petition to the instructor two weeks prior to the scheduled exam and the instructor must approve the petition.

19. Honesty Policy – UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.

On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

20. Accommodation for Students with Disabilities – Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide documentation to the student who must then provide this documentation to the course instructor when requesting accommodation.
21. UF Counseling Services – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
- UF Counseling & Wellness Center, psychological and psychiatric services, 3190 Radio Rd, 392-1575, online: <http://www.counseling.ufl.edu/cwc/Default.aspx>,
 - Career Resource Center, Reitz Union, career and job search services, 392-1601.
 - University Police Department, 392-1111 or 911 for emergencies
22. Software Use – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.
23. Course Evaluation – Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at: <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at: <https://evaluations.ufl.edu/results>.

All UCC1 forms and each UCC2 form that proposes a change in the course description or credit hours must include this checklist in addition to a complete syllabus. Check the box if the attached syllabus includes the indicated information.

Syllabus MUST contain the following information:

- Instructor contact information (and TA if applicable)
- Course objectives and/or goals
- A topical outline (at least tentative) of subjects to be covered
- Required and recommended textbooks
- Methods by which students will be evaluated and their grades determined
- Policy related to class attendance
- Policy related to make-up exams or other work
- Statement related to accommodations for students with disabilities
- Information on current UF grading policies for assigning grade points

It is recommended that syllabi contain the following information:

1. Critical dates for exams and other work
2. Class demeanor expected by the professor (e.g., tardiness, cell phone usage)
3. UF's honesty policy
4. Contact information for university counseling and mental health services

The University's complete Syllabus Policy can be found at:

<http://www.aa.ufl.edu/policy/SyllabiPolicy.pdf>