

Syllabus: EEL 3211C – Basic Electric Energy Fall 2018

Flipped Classroom



Credits:	4		
Meeting Times:	MWF 8 th period	(3:00 p.m. -3:50 p.m.)	NEB 101
	Class Section 12825 Lab Time M 11-E1	(6:15 p.m.- 8:10 p.m.)	NEB 289
	Class Section 12826 Lab Time T 09-10	(4:05p.m.- 06:00 p.m.)	NEB 289
	Class Section 12827 Lab Time W E2-E3	(8:20p.m.- 10:10 p.m.)	NEB 289
Instructor:	Keith J. Rambo	534 NEB	rambo@ufl.edu 352-392-4243
	Office Hours:	T W R	1:00-2:00, or by appointment
TA/Lab:	Jerome Thompson	jrdath@ufl.edu :	(352) 233-3643 Office Hours: Lab Times
NIJA	Daniel Derks	dderks1@ufl.edu	(561) 460-8324 Office Hours: TBD

General Description: Analysis and modeling of power system components. Magnetic circuits, energy conservation, transformers, AC and DC rotating machines, introduction to power transmission.

Objectives: Learn the basics magnetic circuits, transformers, motors, and generators. Design circuits and systems to meet desired needs. Engage in life-long learning. After successful completion of this course, the student will have a basic understanding of:

- MATLAB examples and Electromagnetic circuits and systems Week 1-3
- Three phase circuits including wye and delta configurations Week 4
- Transformer function, characteristics and uses Week 5-6
- AC machinery Week 7-8
- Synchronous Machinery, characteristics and uses Week 9-10
- Induction Motors, characteristics and uses Week 11-12
- DC Machinery, characteristics and uses Week 13-14
- Transmission Lines, characteristics Week 14-15

Required Text: Electric Machinery and Power System Fundamentals, by Stephen J. Chapman – 1st ed. ISBN 978-00-712262-0

Calculator: A TI 89 Titanium or equivalent polar-rectangular mixed mode calculator will be required.

Internet Bandwidth Requirement: You must have 10 Mbps download bandwidth speed to take this course.

This is to ensure that you can view video without buffering as defined by UF Mediasite bandwidth requirements.

Measurements of bandwidth should be tested at <http://speedtest.net> to verify availability of bandwidth (home or campus).

Campus Wireless Access Points (WAP) generally (based on number of users on a single WAP) have sufficient bandwidth to accommodate this requirement.

Grading: Class attendance for the entire period and participation is required. There will be three tests, a final, Laboratory, in/out of class homework and daily quizzes via PollEverywhere (for required video viewing and class attendance verification (no credit provided for partial period attendance/participation).) Homework turned in late will not be given credit as solutions will be reviewed and video posted following the homework due date.

For the daily quizzes, you must log in with your gatorlink id and must have watched 90% or more (as measured by Mediasite analytics) of each of the videos that are required for that class period as shown on the website eadmin.ece.ufl.edu. Failure to meet this requirement will result in a zero score for the material on that quiz. A quiz grade credit of (+0.25) will be given for attending and putting your name on the quiz if you have not watched the material as the quiz is for two purposes: Attendance and Comprehension. Each class period will have one quiz associated with that period unless otherwise notified on Canvas.

Quiz/Test/Exam: One 3" X 5" card will be allowed to assist, as well as calculator. No other electronics are allowed. A ruler will be allowed and will be helpful in interpreting graphs. Formula sheet will be provided with formulas from Chapman on Tests/Exam. Each quiz also contains bonus point(s) that are mostly based on architecture of the UF campus. You will see me standing in front of, places on campus, which you should be able to identify as a member of the Gator Nation (hint: check out.... <http://web.uflib.ufl.edu/ufarch/historic.htm> and <http://web.uflib.ufl.edu/ufarch/gallery.htm>).

The tests (1-3) will be given in evenings as part of a combined help session/test starting at 7:00 PM.

Test	Date	Tentative Chapters
1	09/17/18 (Monday)	1-2
2	10/18/18 (Thursday)	3-4
3	11/16/18 (Friday)	5,7
Final	12/10/18 10:00 a.m.-12:00 a.m.	1,2,3,4,5,7,8,9
Homework	In Class	

An overall **test score, T**, between 0 and 100, will be calculated for each student as shown below.

$$T = \frac{(0.14T_1 + 0.14T_2 + 0.14T_3 + 0.18F)}{0.60}$$

Where T_1 , T_2 , T_3 and F are each of the three tests and final weighted as shown above.

The laboratory will be worth up to 20% of the final grade. If the semester lab grade (L) falls below a C+ (77.5%) then the lab grade (L) will be weighted as: $L = (\text{Final Lab Grade}) \times 0.50$ and that value will be applied in the formula below.

The score, S , for the course will be calculated as follows assuming that HW represents the overall homework score.

If $HW > T$ then:

$$S = 0.05 (\text{Daily Quizzes}) + 0.15HW + 0.60T + 0.20L$$

Otherwise HW is weighted more, tests are weighted less:

$$S = 0.05 (\text{Daily Quizzes}) + ((0.15 + 0.002(T - HW))HW) + ((0.60 - 0.002(T - HW))T) + 0.20L$$

******* WARNING: Canvas Posted Scores (S) Do Not Reflect the Actual Score (S). *******

Grades will be assigned based on the table shown below.

Overall Score	Grade
92.5-100	A
90-92.499...	A-
87.5-89.99...	B+
82.5-87.499...	B
80-82.499...	B-
77.5-79.999...	C+
72.5-77.499...	C
70-72.499..	C-
67.5-69.99...	D+
62.5-67.499...	D
60-62.499...	D-
Less than 60	E

Course Evaluation: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. 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/>.

University 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 (<https://www.dso.ufl.edu/%20sccr/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.

Software Use: All faculty, staff, and students 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.

Students Requiring Accommodations: Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

UF Grading Policy: Details may be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Student Privacy: There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
<https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.

Absences: Students are responsible for satisfying all academic objectives as defined by the instructor. Absences count from the first class meeting. In general, acceptable reasons for absence from or failure to participate in class include illness, serious family emergencies, special curricular requirements (e.g., judging trips, field trips, professional conferences), military obligation, severe weather conditions, religious holidays, and participation in official university activities such as music performances, athletic competition or debate. Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) must be excused. Other reasons also may be approved. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence. Students cannot participate in classes unless they are registered officially or approved to audit with evidence of having paid audit fees. The Office of the University Registrar provides official class rolls to instructors. If a student does not participate in at least one of the first two class meetings of a course or laboratory in which they are registered, and he or she has not contacted the department to indicate his or her intent, the student can be dropped from the course. Students must not assume that they will be dropped, however. The department will notify students if they have been dropped from a course or laboratory. The university recognizes the right of the individual professor to make attendance mandatory. After due warning, professors can prohibit further attendance and subsequently assign a failing grade for excessive absences.

Religious Holidays: At the University of Florida, students and faculty work together to allow students the opportunity to observe the holy days of his or her faith. A student should inform the faculty member of the religious observances of his or her faith that will conflict with class attendance, with tests or examinations, or with other class activities prior to the class or occurrence of that test or activity. The faculty member is then obligated to accommodate that particular student's religious observances. Because students represent a myriad of cultures and many faiths, the University of Florida is not able to assure that scheduled academic activities do not conflict with the holy days of all religious groups. Accordingly, individual students should make their need for an excused absence known in advance of the scheduled activities. The Florida Board of Education and state law govern university policy regarding observance of religious holidays.

The following guidelines apply:

- . Students, upon prior notification to their instructors, shall be excused from class or other scheduled academic activity to observe a religious holy day of their faith.
- . Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence.
- . Students shall not be penalized due to absence from class or other scheduled academic activity because of religious observances.

If a faculty member is informed of or is aware that a significant number of students are likely to be absent from class because of a religious observance, the faculty member should not schedule a major exam or other academic event at that time.

A student who is to be excused from class for a religious observance is not required to provide a second party certification of the reason for the absence. Furthermore, a student who believes that he or she has been unreasonably denied an education benefit due to religious beliefs or practices may seek redress through the student grievance procedure.

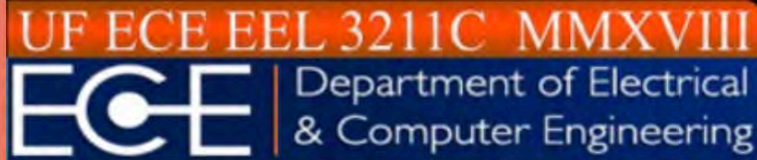
Illness Policy: If a student is absent from classes or examinations because of illness, she or he should contact their instructors. Students should contact their college by the deadline to drop a course for medical reasons. Students can petition the [Dean of Students Office](#) to drop a course for medical reasons. The university's policy regarding [medical excuse](#) from classes is maintained by the Student Health Care Center. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence.

Twelve-Day Rule: Students who participate in athletic or extracurricular activities are permitted to be absent 12 scholastic days per semester without penalty. (A scholastic day is any day on which regular class work is scheduled.) Instructors must be flexible when scheduling exams or other class assignments. The 12-day rule applies to individual students participating on athletic or scholastic teams. Consequently, a group's schedule that requires absence of more than 12 days should be adjusted so that no student is absent from campus more than 12 scholastic days. If a student previously has been warned about absences or unsatisfactory work, he or she should not incur additional absences, even if he or she has not been absent 12 scholastic days. It is the student's responsibility to maintain satisfactory academic performance and attendance.

Material:

Topic

Date



EEL 3211C List View

EEL3211C	AUG 22 #01 (60')	AUG 24 #02 (53')	AUG 27 #03 (39')	AUG 29 #04 (33')	AUG 31 #05 (50')
SEP 03 #XX (LD)	SEP 05 #06 (38') 2	SEP 07 #07 (61')	SEP 10 #08 (58')	SEP 12 #09 (45')	SEP 14 #10 (86')
SEP 17 #11 (T1 17)	SEP 19 #12 (53')	SEP 21 #13 (46')	SEP 24 #14 (45')	SEP 26 #15 (45')	SEP 28 #16 (37')
OCT 01 #17 (37')	OCT 03 #18 (40')	OCT 05 #19 (61')	OCT 08 #20 (50')	OCT 10 #21 (50')	OCT 12 #22 (44')
OCT 15 #23 (27')	OCT 17 #24 (45' T2 10-18)	OCT 19 #25 (NC')	OCT 20 DEERHAVEN	OCT 22 #26 (47')	
OCT 24 #27 (50')	OCT 26 #28 (50')	OCT 29 #29 (35')	OCT 31 #30 (44')	NOV 02 #XX (HC')	NOV 05 #31 (43')
NOV 07 #32 (50')	NOV 09 #33 (54')	NOV 12 #XX (VD)	NOV 14 #34 (58')	NOV 16 #35 (43' T3 EVENING)	
NOV 26 #36 (25")	NOV 28 #37 (90' HAWKINS)	NOV 30 #38 (54')	DEC 03 #39 (56')	DEC 05 #40 (XX REVIEW)	

EEL3211C LIST VIEW

#1 EEL 3211C Flipped Classroom Methods (15').mp4	Aug 22	Up and Running with MATLAB 90'
#2 EEL 3211C Materials Expectations and Grading Policy (25').m4v	Aug 22	Hoover Dam 34'
#2a Excerpt from : Uranium – Twisting the Dragon's Tail Part Two 11'	Aug 22	Construction of The Hoover Dam.pdf
#2b Creating an Asian Power Grid (9')	Aug 22	Creating an Asian Power Grid (9').m4v
#3 EEL 3211C Lynda and Matlab (14').mp4	Aug 24	Uranium – Twisting the Dragon's Tail Part One
#4 EEL 3211C Chapman Matlab Files and Examples (5').mp4	Aug 24	Uranium – Twisting the Dragon's Tail Part Two
#5 EEL 3211 Matlab Examples (1 of 3) (12').mp4	Aug 24	Search for the Super Battery
#6 EEL 3211 Matlab Examples (2 of 3) (14').mp4	Aug 24	Ex_Files_UaR_MATLAB.zip
#7 EEL 3211C Matlab Examples (3 of 3) (8').mp4	Aug 24	
#8 EEL 3211C Force Torque Work and Power (19').mp4	Aug 27	
#9 EEL 3211C Electromagnetism and Power (20').mp4	Aug 27	
#10 EEL 3211C Magnetic Cores B,H,Mu,F,N,I,Phi and R (20').mp4	Aug 29	Fall 2018 HW #1 Review
#11 EEL 3211C Magnetic Circuit Examples (1 of 2) (13').mp4	Aug 29	Fall 2018 HW #2 Review
#12 EEL 3211C Magnetic Circuit Examples (2 of 2) (27').mp4	Aug 31	Fall 2018 HW #3 Review
#13 EEL 3211C Torque Examples (23').mp4	Aug 31	Fall 2018 HW #4 Review
#14 EEL 3211C Magnetic Circuit Example Cylinder in Core (23').mp4	Sep 05	Fall 2018 HW #5 Review
#15 EEL 3211C More Magnetic Circuit Examples (9').mp4	Sep 05	Fall 2018 HW #6 Review
#15a EEL 3211C Math Relationships of Core Parameters (6').mp4	Sep 05	Fall 2018 HW #7 Review
#16 EEL 3211C Domains, Hysteresis, Lenz's Law (33').mp4	Sep 07	Fall 2018 HW #8 Review
#17 EEL 3211C Force on a Wire (EMF) (29').mp4	Sep 07	Fall 2018 HW #9 Review
#18 EEL 3211C Complex Power, Circuit Elements (24').mp4	Sep 10	Fall 2018 HW #10 Review
#19 EEL 3211C Leading and Lagging Complex Elements (18').mp4	Sep 10	Fall 2018 HW #11 Review
#20 EEL 3211C 3 Phase Power Introduction (16').mp4	Sep 10	Fall 2018 HW #12 Review
#21 EEL 3211C 3 Phase Wye and Delta Line and Phase Characteristics (26').mp4	Sep 12	
#22 EEL 3211C 3 Phase Wye Source and Load Example (19').mp4	Sep 12	
#23 EEL 3211C 3 Phase Wye and Delta Examples (40').mp4	Sep 12	
#24 EEL 3211C Force on Wire and Delta to Wye Conversion (28').mp4	Sep 14	
#24a EEL 3211C Precision of Calculations & Delta to Wye Conversion (9').m4v	Sep 14	
#24b EEL 3211C Delta Wye Review Part 1 of 2 (5') .m4v	Sep 14	
#24c EEL 3211C Delta Wye Review Part 2 of 2 (3') .m4v	Sep 14	

Material:

Topic

Date

#25 EEL 3211C What is a Transformer (TX) (22').mp4	Sep 19
#26 EEL 3211C Transformer (TX) Conventions and Impedance Relationships (10').mp4	Sep 19
#27 EEL 3211C TX Relationships of Flux, E(ind) and Power (21').mp4	Sep 19
#29 EEL 3211C A Real TX and a Fun Faults Video(10').mp4	Sep 21
#30 EEL 3211C Flux Characteristics and Loss Elements in TX (13').mp4	Sep 21
#31 EEL 3211C TX Loss Elements Continued (23').mp4	Sep 21
#32 EEL 3211C TX Example Problem using Loss Elements (28').mp4	Sep 24
#33 EEL 3211C Vector Analysis Review (17').mp4	Sep 24
#34 EEL 3211C The Per-Unit (PU) Method (37').mp4	Sep 26
#34A EEL 3211C Additional Per Unit Analysis Information (38').mp4	Sep 26
#34B EEL 3211C Per-Unit Method Example (15').mp4	Sep 28
#35 EEL 3211C TX Loss Element Analysis Method (22').mp4	Sep 28
#36 EEL 3211C Problems using TX Loss Elements (19').mp4	OCT 01
#37 EEL 3211C 3 Phase Transformers (18').mp4	OCT 01
#38 EEL 3211C 3 Phase Transformer Problems (22').mp4	OCT 03
#39 EEL 3211C Transformer Ratings and Issues (15').mp4	OCT 03
#40 EEL 3211C Rotating Machinery Introduction (1 of 4) (30').mp4	OCT 05
#41 EEL 3211C Rotating Machinery Continued (Turner) (2 of 4) (27').mp4	OCT 05
#42 EEL 3211C Rotating Machinery Continued (Turner) (3 of 4) (9').mp4	OCT 05
#43 EEL 3211C Rotating Machinery Continued (Turner) (4 of 4) (14').mp4	OCT 05
#40a EEL 3211C Rotating Machinery Introduction (Turner) (1 of 4) (50').mp4	OCT 08
#41a EEL 3211C Rotating Machinery Continued (2 of 4) (13').mp4	OCT 10
#42a EEL 3211C Rotating Machinery Continued (3 of 4) (8').mp4	OCT 10
#43a EEL 3211C Rotating Machinery Continued (4 of 4) (10').mp4	OCT 10
#44 EEL 3211C 3 Phase Machine DIRECTION of Rotation (13').mp4	OCT 12
#45 EEL 3211C Force and Torque on Wire Loops (11').mp4	OCT 12
#46 EEL 3211C Net Magnetic Field (B-Net) (20').mp4	OCT 12
#47 EEL 3211C Synchronous Machine Forces, Torque, and Losses (27').mp4	OCT 15
Modern Marvels Power Plants (45').mp4	OCT 17

Material:

Topic

Date

#50 EEL 3211C Synchronous Machine Construction (21').mp4	Oct 22
#51 EEL 3211C Synchronous Generator Model and Vector Analysis (26').mp4	Oct 22
#52 EEL 3211C Synchronous Generator Phasor Diagrams(15').mp4	Oct 24
#53 EEL 3211C Synchronous Generator Power and Torque (19').mp4	Oct 24
#54 EEL 3211C Synchronous Generator Model Parameter Determination (16').mp4	Oct 24
#55 EEL 3211C Synchronous Wye Connected Machine Example (Turner) (21').mp4	Oct 26
#56 EEL 3211C Synchronous Wye Connected Machine V Phi Analysis (Turner) (14').mp4	Oct 26
#57 EEL 3211C Synchronous Machine Power, Efficiency and Regulation (Turner) (15').mp4	Oct 26
#58 EEL 3211C Why do we Simplify the Machine Model? (Turner) (9').mp4	Oct 29
#59 EEL 3211C Synchronous Machine Motor Model Differences (Turner) (13').mp4	Oct 29
#60 EEL 3211C Synchronous Motor Phasor Diagrams (13').mp4	Oct 29
#61 EEL 3211C Synchronous Motor Delta Connected Example (17').mp4	Oct 31
#62 EEL 3211C Synchronous Generator Delta Connected Example (16').mp4	Oct 31
#63 EEL 3211C Synchronous Motor Use for Power Factor (PF) Correction (11').mp4	Oct 31
#64 EEL 3211C Starting Synchronous Motors (17').mp4	Nov 05
#65 EEL 3211C Amortisseur Winding, Service Factors, Phasor Summary (18').mp4	Nov 05
#66 EEL 3211C Magnetic Field Measurements on a Rotor (8').mp4	Nov 05
#67 EEL 3211C Introduction to Induction Motors (16').mp4	Nov 07
#68 EEL 3211C Rotor Slip on Induction Motors (13').mp4	Nov 07
#69 EEL 3211C Rotor Slip Example (8').mp4	Nov 07
#70 EEL 3211C Induction Motor Equivalent Circuit(13').mp4	Nov 07
#71 EEL 3211C Induction Motor Power Flow (8').mp4	Nov 09
#72 EEL 3211C Induction Motor Power and Torque (12').mp4	Nov 09
#73 EEL 3211C Induction Motor Power, Torque and Efficiency Example (13').mp4	Nov 09
#74 EEL 3211C Induction Motor Rotor Loss and Power Analysis (21').mp4	Nov 09
#75 EEL 3211C Induction Motor Thevenin Circuit Analysis (21').mp4	Nov 14
#77 EEL 3211C Induction Motor Power, Torque,Slip and Speed Example (19').mp4	Nov 14
#78 EEL 3211C Induction Motor Rotor R Effects and Model Determination (18').mp4	Nov 14
#79 EEL 3211C Induction Motor Model Parameter Calculation Example (25').mp4	Nov 16

Material:

<i>Topic</i>	<i>Date</i>
#81 EEL 3211C DC Motors; E(ind) on Rotating Loop in Static B (28').mp4	Nov 26
#82 EEL 3211C DC Motors; Example Torque Voltage and Power (11').mp4	Nov 26
#83 EEL 3211C DC Motors; Commutation on a 4 Loop Machine (10').mp4	Nov 26
#85 EEL 3211C DC Motors; Difficulties with Commutation (11').mp4	Nov 30
#86 EEL 3211C DC Machines; Design, Power Flow and Examples (13').mp4	Nov 30
#87 EEL 3211C DC Machines; Effect of Varying Rf (6').mp4	Nov 30
#84 EEL 3211C Chuck Hawkins Lecture (52').mp4	Nov 28
#88 EEL 3211C DC Machines; Effect of Varying R on Omega (5').mp4	Nov 30
#89 EEL 3211C DC Machines; Commutator Segment Connections (11').mp4	Nov 30
#90 EEL 3211C DC Machines; Additional Types (8').mp4	Dec 03
#91 EEL 3211C Introduction to Power Transmission Lines (20').mp4	Dec 03
#92 EEL 3211C Properties of Distribution Systems (17').mp4	Dec 03
#93 EEL 3211C Transmission Line Tables and Chapman 9.1 (19').mp4	Dec 04

LEGEND:

Matlab **Magnetic Cores** **Transformers** **Rotating_Machines** **Synchronous_Machines**

Induction_Machines **DC_Machines** **Transmission_Lines** **Additional Material**

EEL3211C - Electrical Energy Conversion Laboratory

Spring 2018

I. Catalog Description

Electric energy conversion, devices and systems.

II. Co-requisites

None

III. Course Objectives

The main purpose of this lab is to familiarize the student with the main areas of study of conventional electric energy conversion. This includes Power Measurement & Instrumentation, Transformers, DC Motors & Generators, Induction Machines, and Synchronous Machines.

IV. Lab TA: Jerome Thompson

- a. Phone: (352) 233-3643
- b. Email: jrdath@ufl.edu

V. Class Nija TA: NA

VI. Meeting Location

NEB 289

VII. Grading

The course will be composed of the following:

- Lab Reports
- Participation and Prelab
- Quizzes

VIII. Grading Scale

Letter grades are based on the table below.

Overall Score	Grade
92.5-100	A
90-92.499...	A-
87.5-89.99...	B+
82.5-87.499...	B
80-82.499...	B-
77.5-79.999...	C+
72.5-77.499...	C
70-72.499..	C-
67.5-69.99...	D+
62.5-67.499...	D
60-62.499...	D-
Less than 60	E

IX. Lab Policies & Expectations

- a. Groups: Beginning with Lab 1, students will form groups of two, with each group getting a separate workstation.
- b. Preparation: The student is expected to read and understand the laboratory procedure before starting the experiment, and to have answers for any questions contained in any assigned prelabs.
- c. Safety: All safety requirements are outlined in the lab manual and must be followed at all times.
- d. Reports: Lab Reports are due by the start of the next lab. Each member of every group is responsible for their own lab report. For more information on report structure and grading, refer to the lab manual.
- e. Make-Up Labs: If a lab cannot be attended, send the TA an **email prior** to the lab to arrange a make-up.
- f. Late Attendance: If a student is 10 minutes late to class, the student will not be allowed to perform the lab that day or turn in a lab report.
- g. Late Lab Reports: Completed lab reports are due the following lab (Usually every two weeks). If a lab report is not turned in during the first 10 minutes of the following lab, there is a 25% penalty. If it is turned in 1 week after the due date there will be a 50% penalty.

X. Lab Schedule-

XI.

Aug 22	<u>NO LAB</u>
Aug 27/29	Prelab Due , Perform Lab 0 (All students attend registered day)
Sept 3/5	<u>NO LAB</u>
Sept 10/12	Lab 1 – Group 1
Sept 17/19	Lab 1 – Group 2
Sept 24/26	Lab 2 – Group 1
Oct 1/3	Lab 2 – Group 2
Oct 8/10	Lab 3 – Group 1
Oct 15/17	Lab 3 – Group 2
Oct 22/24	Lab 4 – Group 1
Oct 29/31	Lab 4 – Group 2
Nov 5/7	Lab 5 – Group 1
Nov 12/14	Lab 5 – Group 2 (Nov 12 Makeup)
Nov 26/28	Lab 6 – All Groups attend