ECET 1011 Fundamentals
Course Syllabus
Spring 2012

2-3-3

Course Description:

The purpose of this course is for each student to learn and immediately apply the fundamentals of dc circuit analysis. The concepts gained in this course will build an essential foundation towards learning how to build electrical and electronic devices used in all areas of life.

Prerequisite:

ECET 1000 or concurrently, MATH 1113 or concurrently

Required Text

Introductory Circuit Analysis, 12th Edition, Robert L. Boylestad, Prentice Hall, 2010

Course Outcomes

After successfully completing this course, students, will able to demonstrate that they can do the following:

1. State and describe the basic circuit variables including charge, voltage, current, power, and energy.

2. Define resistance and conductance, show the schematic symbols, and determine the effects of material, size, and temperature.

3. State the properties of the ideal voltage source and ideal current source models and show their schematic symbols.

4. State and apply Ohm's Law.

5. Discuss voltage and current measurements and how they are made.

6. State and apply Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law (KCL).

7. Determine equivalent resistances using series combinations. Determine equivalent resistances using parallel combinations.

8. Analyze a single-loop (series) circuit to determine all the variables. Analyze a single node-pair (parallel) circuit to determine all the variables.

9. State and apply the Voltage Divider Rule (VDR) and the Current Divider Rule (CDR).

Topics Covered

1. Introduction, Units of Measurement, Powers of Ten, Symbols.

2. Voltage and Current.

3. Resistance.

4. Ohm's Law, Power, Energy.

5. Series DC Circuits.

6. Parallel DC Circuits.

7. Series/Parallel DC Circuits.

Assessment and Policies

Attendance

Attending class is required. Roll will be taken daily. No makeup assignments will be given unless previous arrangements are made with your instructor. Otherwise, a grade of zero will be recorded for any missed grades. In the case of extreme emergencies, contact your instructor as soon as possible. **YOU ARE RESPONSIBLE** for any missed notes, handouts, assignments, announcements, etc.

Homework

Homework problems will be assigned, collected, and graded. The purpose of the homework is to learn the methods of problem solving, rather than being absolutely correct. More emphasis will be placed on how the problem is solved as opposed to simply arriving at a correct answer. **NO CREDIT WILL BE GIVEN FOR LATE HOMEWORK**.

Homework must be submitted on green Engineering Computation Notepad paper. Each homework problem will be worth three points. One point will be given for writing out the problem in its entirety, including any associated diagrams. One point will be given for showing your work. One point will be given for the correct answer. Giving only the answer is not worth any points.

Exams

There will be three mid-term exams. They will be announced in class one week in advance. You will be given fifty minutes of class time to take each exam. No makeup exams will be given unless previous arrangements are made with your instructor. Otherwise, a grade of zero will be recorded for any missed exams. In the case of extreme emergencies, contact your instructor as soon as possible. **ALL ELECTRONIC DEVICES MUST BE TURNED OFF AND PUT AWAY DURING ALL EXAMS.**

Laboratory Experiments and Reporting

Laboratory is an essential part of ECET courses. The ability to report technical information in a clear and concise manner is one of the most important practical skills that a technically trained person can develop.

If we were to rate the skills possessed by an individual trained to use and understand electrical and electronic theory, the ability to communicate effectively in written English would surely rank as high as, if not higher than the ability to construct reliable circuits, make accurate measurements, and understand the results of the experiments. The results and conclusions drawn from experimental procedures are of little value unless they can be communicated to others.

SPSU REQUIRES A PASSING LAB GRADE IN ORDER TO PASS THE CLASS. Roll will be taken in each lab. No makeup labs will be given unless previous arrangements are made with your instructor. Otherwise, a grade of zero will be recorded for any missed labs. In the case of extreme emergencies, contact your instructor as soon as possible.

Final Exam

The final exam will be comprehensive covering all topics discussed in class. You will be given one hour and fifty minutes to take the exam. Taking the final exam is mandatory. There will be no exemptions.

Evaluation Method

Course Evaluation	Grade Composition	Grade Scale	
Attendance/Participation	10%	90 – 100	A
Homework	20%	80 – 89	B
Exam I	5%	70 – 79	C
Exam II	10%	60 – 69	D
Exam III	10%	Below 60	F
Lab	20%		
Final Exam	25%		

General Information

Use of electronic devices during class is a distraction to you and your classmates. Be considerate. Please turn off all electronic devices during all classes. **ALL ELECTRONIC DEVICES MUST BE TURNED OFF AND PUT AWAY DURING ALL EXAMS.**

Neatness on submitted work is important. Work that is sloppy and/or contains spelling and grammatical errors will be penalized.

You may appeal any grade received. If you choose to appeal a grade, the instructor reserves the right to re-grade the entire test or assignment. **ALL APPEALS FOR RE-EVALUATION OF A GRADE MUST BE MADE WITHIN ONE WEEK OF THE ASSIGNMENT BEING RETURNED TO YOU.**

You are responsible for being academically honest as defined by the academic dishonesty rules in the general catalog. **CHEATING WILL NOT BE TOLERATED.**

Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the counselor working with disabilities at (678) 915-7244 as soon as possible to better ensure that such accommodations are implemented in a timely fashion.