

Course Syllabus

Instructor:

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Description:

Electrical Systems is based upon two basic laws: Kirchhoff’s Voltage Law (KVL) and Kirchhoff’s Current Law (KCL). To these laws, add the models of electrical elements and the energy relationships and it leads to the principles of circuit analysis.

Electrical Systems is a pre-requisite for several paths:

- *Electrical Engineering* (ECE 207), a broader look at electrical applications
- *Analysis and Design of Engineering Systems* (ES 205), combining electrical, mechanical, thermal, and fluid systems

ES205 has a prerequisite of a C or better in ES203.

Text: J.W. Nilsson & S.A. Riedel, *Electric Circuits*, 9th edition, Prentice Hall, 2011.

Websites:

Course: <https://moodle.rose-hulman.edu/>
 Lectures: <http://www.youtube.com/rosehulmanonline>
 Homework: <http://www.masteringengineering.com/>
 Lab: <http://www.rose-hulman.edu/beem/>
 Tutorial: <http://www.rose-hulman.edu/cleo/>

Grading:

Grades will be assigned at the end of the quarter based on the grade weights and grading scale shown below:

Midterms	39%
Final Exam	26%
Homework	10%
Labs and Memos	15%
Lab Practical Test	5%
Quizzes	5%

A	90 – 100
B+	85 – 89
B	80 - 84
C+	75 - 79
C	70 - 74
D+	65 - 69
D	60 - 64
F	0- 59

Independent of point totals:

- You must satisfactorily *complete* each of the eight lab projects in order to receive a passing grade in the course
- You must earn an overall weighted exam average of at least 60% in order to receive a passing grade in the course.

In preparation for the course:

- You must attend a mandatory introductory meeting during week 10 to discuss course expectations
- You must complete the Test of Online Learning Success (ToOLS) at the following link and email the results to me by the end of finals week (http://distance.uh.edu/online_learning.html)
- I recommend that you review some of the materials I have provided on the Moodle course site regarding best practices for success in online learning.
- You must purchase the textbook from the bookstore before you leave campus. Note that the MasteringEngineering student access card is sold with the text so if you get one from somewhere else you will have to purchase this access online at www.masteringengineering.com
- You must also purchase the study guide and lab manual from the bookstore before you leave campus.
- You must purchase the ES203 lab kit from the ECE Instrument room (Moench C114)
- You must check out an NI myDAQ from the ECE Instrument Room (Moench C114)
- Install the NI myDAQ Instrument Launcher and Multisim software and confirm it is working before you leave campus for the summer
- You must have access to a high quality scanner (not cell phone camera) to submit your exams electronically

Examinations:

In this course, examinations make up 65% of the grade and warrant careful preparation. Examination questions will be based on the lecture material, textbook, quizzes, homework, and laboratory work. You must scan your completed exam and upload it to the Moodle course website by 11:59 p.m. EST on the Sunday it is due. Note the final exam must be submitted by the last day of class by 11:59 p.m. EST.

Homework:

The homework is intended to help you to understand the concepts presented in the course, and to provide you with practice in problem solving. All homework assignments will be completed on MasteringEngineering, see computer resources document for more details.

Labs:

In order to prepare for the lab, pre-lab exercises are due the day before the lab. They must be uploaded to the Moodle course website. They will include hand calculations as well as Multisim Simulations. You must scan any required hand calculations and upload the entire prelab as one document to the Moodle Course website by 11:59 p.m. EST on the day it is due.

After the laboratory exercise is completed, each student must write a lab memo to document the procedure, data and results. The memo must be a typewritten Word document and it may require you to create graphs in Excel. It should be uploaded to the Moodle course website by 11:59 p.m. EST on the day it is due.

Quizzes:

There will be weekly quizzes that involve solving short problems or answering questions on required reading, homework and lectures. These will be completed in the Moodle Course website and are due by 11:59 p.m. EST on the day it is due.

Late Policy:

All assignments are due by 11:59 p.m., assignments that are one day late will receive a 25% penalty and 100% thereafter.

Office Hours:

I will typically be online throughout the day and can be reached via email or chat. However, if you need to set up a time to talk, please let me know and we can schedule a phone, Skype or Lync appointment.