

**Physics 335, Spring Quarter 2012**  
**Electric Circuits Laboratory II:**  
**Digital Electronics, Microprocessors and**  
**Microcontrollers**  
**[courses.washington.edu/phys335](http://courses.washington.edu/phys335)**

**Instructor** Prof. Leslie J Rosenberg

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Office: Physics/Astronomy Building, room C503

Office Hours: Tuesdays 10:30-11:20 am at C503

**Optional Text books**

**You can view these texts books in the room B280 lab**

P.Horowitz and W.Hill, The Art of Electronics, 2nd edition.

T.Hayes and P.Horowitz, Student Manual for the Art of Electronics.

As we move into microcontroller topics starting near the middle of the quarter, you'll rely heavily on handouts and data-sheets.

**Technical Supervisor**

Jason Alferness, B256B, 206 221-2974, alf@phys.washington.edu

**Meeting times and locations**

Lectures: Physics/Astronomy Building, room A110

Tuesdays and Thursdays 9:30-10:20 am

Note: The first lecture is Tuesday March 27

Labs: Physics/Astronomy Building, room B280

Section AC (TA:Zeng):

Tuesdays 1:30-4:20 pm

Section AA (TA:Zeng-labs 1-4; Boutan-labs 5-8):

Wednesdays 1:30-4:20 pm

Section AB (TA:Boutan):

Thursdays 1:30-4:20 pm

Note: Labs start the week of April 2

## **Teaching Assistants**

Christian Boutan, office PAA B155, boutan@uw.edu

Chengeng Zeng, office PAA B231, genguni@uw.edu

**Exam:** There's one exam on Thursday May 10. It will cover the digital circuits up to that point. There's no final exam.

**Homework:** Problems will occasionally be assigned on Tuesdays and are due the next Tuesday in lecture. Not all problems will be graded. Late policy: A late homework is assigned zero points. Although homework isn't weighted very strongly for your grade, let me caution you: We've found that if you take the time to understand the homework, you'll do well on exams and labs. Conversely, those that don't do the homework or do it poorly tend to do much worse on exams and labs. So, do take the homework seriously, turn in work you're proud of, and if there's something on the homework that you don't understand, please talk to me.

**Labs:** Especially for the microcontroller labs nearer the end of the quarter, each lab builds on the previous lab, so you'll have to keep up. We therefore strongly recommend you read and understand the lab beforehand. The labs are full, especially so near the beginning of the quarter. Therefore, if you're a no-show (with no notice) at the first lab, you may be dropped from the lab & class.

**Make-up labs:** Make every effort to attend your weekly lab. If you cannot, then by arrangement with your TA and the other lab TA, you can make up your lab in another lab section. Remember: you can make up only one lab the final course week. There are no labs during finals week.

**Lab reports:** You'll turn in lab reports at the end of each lab. You don't need a lab notebook, but I recommend you use cross-ruled engineering paper so you can make graphs. Begin each report with your name and date of the lab. Subdivide the report into sections corresponding to assigned sections in the lab manual, e.g. 9-1, 9-3. Each circuit must have a neat, readable schematic in your report; see Horowitz and Hill appendix E for information on what constitutes a

readable schematic. Record your calculations, make graphs and sketches of oscilloscope traces as needed, and answer questions in the lab handouts and lab manual. Don't make the report unnecessarily long: keep it short, concise but complete. You'll have to turn in passing reports for all the labs to pass the course.

### **Grading**

Exam: 20%

Homework: 15%

Lab practice (assessed by your TA): 25%

Lab reports: 40%

The project counts twice as much in your grade as any one lab. You'll need to receive passing grades on all your labs in order to pass the course. To reiterate: You can make up only one lab the last week of classes, and you need to pass all the labs in order to pass the course. Therefore, if you enter the last class week missing two or more labs, you will have failed the course.

For those students who make a good-faith effort on the homework and labs, and do OK on the exam, I anticipate the mean grade will be approximately 3.2 (but keep in mind this is only a very rough guideline).

**Web site:** The course site [courses.washington.edu/phys335](http://courses.washington.edu/phys335) has more information.

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