Course Syllabus

Course Description: Network measurements and applications, experimental logic design; introduction to laboratory equipment and techniques.

Corequisites: EE 201 Network Theory I and EE 221, or permission of the program director.

Meeting Periods: Thursday, 2:05 – 4:55 pm, in Belk 324.

Course Eval Dates: November 22 – December 6, 2009

Instructor: Dr. Robert Adams
Office: Belk 335
Office hours: Posted on office door
Phone: 227-2437
Fax: 227-7838
email: radams@email.wcu.edu
web site: http://paws.wcu.edu/radams/

Objectives:
This laboratory should impart:

- Experience with fundamental laboratory instruments, including: signal generators, oscilloscopes, power supplies, and multimeters.
- The ability to perform precision resistance measurements with a Wheatstone bridge.
- Familiarity with the basic circuit elements (Resistors, Capacitors, and Inductors) plus the various types available and their applications.
- The ability to measure initial and steady state currents and voltages in a transient circuit.
- The ability to measure DC currents and voltages in series and parallel circuits.
- An understanding of circuit analysis methods and theorems, to include: Superposition, Ohm’s law, and Kirchhoff’s current and voltage laws, and Thevenin and Norton theorems.
- An introductory knowledge of digital debounce circuits.

Laboratory experiments:
Lab experiments will be performed weekly in groups of two or three students. There will be a total of ten lab experiments. Labs can be downloaded from the course web site. Students may open the files and print them using Acrobat reader. Students should print these files well ahead of time, to be able to read and familiarize themselves with the concepts and equipment used in the labs.
Laboratory reports:
Each lab will require a prelab that will be signed off by the instructor upon completion. Students are not permitted to perform an experiment without first doing the prelab. The prelab may be handed in along with the lab report. Each student is required to write his/her own lab report. Lab reports will be due one week following the laboratory experiment. Late lab reports will be penalized one letter grade for each day beyond the due date.

The format of the lab report can be found on the course website. Lab reports will have five sections: Heading/equipment list, Theory / Background Information, Results / Data Analysis, Conclusion, and Attachments. The attachments must include as a minimum the prelab and the handwritten raw data obtained the experiment. The lab report grade will be computed as follows:

- Heading / equipment list: 5 %
- Theory / background information section: 30 %
- Results / data analysis section: 30 %
- Conclusion: 5 %
- Prelab: 20 %
- Lab handout with raw data: 10 %

The prelab will be due at the start of each class before doing the experiment. Late prelabs will be penalized 50%.

The lab report will be due one week after the lab is performed. Late labs will be penalized 25 % per day.

Proper grammar, good sentence structure, liberal and proper use of equations, figures and tables are all integral components of good technical writing. These writing components will be evaluated in computing the lab report grade. More information concerning the lab report guidelines can be found at the course web site.

Attendance policy:
Attendance to all laboratory experiments is required. Lab reports will not be accepted if the lab experiment is not performed.

Final Exam:
A final exam will test skills acquired in the laboratory experiments.
Grading Distribution:

Lab Reports (including prelabs): 80 %
Final Exam: 20 %
Total 100 %

Grading Scale:

The grading scale below will be used to determine final grades:

<table>
<thead>
<tr>
<th>Numerical Course Average</th>
<th>Grade Assigned</th>
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<tbody>
<tr>
<td>93 – 100</td>
<td>A</td>
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<tr>
<td>90 – 92</td>
<td>A-</td>
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<tr>
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<td>80 – 82</td>
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<td>63 – 66</td>
<td>D</td>
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<tr>
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<td>D-</td>
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<td>&lt; 60</td>
<td>F</td>
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</tbody>
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Accommodations for Students with Disabilities:

Western Carolina University is committed to providing equal educational opportunities for students with documented disabilities. Students who require disability services or reasonable accommodations must identify themselves as having a disability and provide current diagnostic documentation to Disability Services. All information is confidential. Please contact Kimberly Marcus for more information. Phone: (828) 227-7234; E-mail: kmarcus@email.wcu.edu.