



University of Wisconsin Platteville Department of Electrical Engineering

Course Syllabus

EE 1020 Electrical Engineering Projects and Tools

Spring 2019

Instructor

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Laboratory

Laboratory- L1: Friday, 3.00 p.m.-3.50 p.m.; Engineering Hall 0337
 Laboratory- L2: Friday, 8.00 a.m.-9.50 a.m.; Engineering Hall 0337

Office Hours

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8.00AM					EE 1020 – L2 - Lab
9.00AM		EE 3770 – L2 - Lab			
10.00AM	EE 1210 – A1 - Lab		EE 1210 – A2 - Lab	Office Hour	EE 1210 – A3 - Lab
11.00AM	EE 1210 - B - Lecture	EE 1210 – B3 - Lab	EE 1210 - B - Lecture	Office Hour	EE 1210 - B - Lecture
12.00PM	EE 1210 – B2 - Lab	GE 2930 – 01 - Lecture		GE 2930 – 01 - Lecture	EE 1210 – B1 - Lab
1.00PM		GE 2930 – L1 - Lab	Office Hour	GE 2930 – L1 - Lab	Office Hour
2.00PM	Office Hour		Office Hour		
3.00PM			Office Hour	Office Hour	
4.00PM	EE 1020 – L1 - Lab		Office Hour	Office Hour	
5.00PM					

Updated office hours will be available on **Canvas**. Students can also meet me any other times by appointment.

Course Objectives

This course is an introduction to the tools that are used in the field of Electrical Engineering. Students will be introduced to the use of the tools through the development of several projects. The class will be organized in modules. Each module will be between 1 and 4 weeks long depending on the complexity of the project. Each module will be built around a project. The laboratory experience will include measurements and/or fabrication. The objectives of this course can be summarized as follows:

1. To introduce students to electrical engineering.
2. To help students better understand the University of Wisconsin-Platteville electrical and computer engineering program.
3. To help students learn to use the basic electrical engineering tools such as power supplies, breadboards, function generators, soldering station, etc.
4. To help students understand the main steps involved in completing projects and to complete several projects in different areas of electrical engineering.

Expected Learning Outcomes

1. The ability to use the digital multimeter (DMM) to measure the resistance of resistors, the voltages of DC/AC voltage sources or the voltages across circuit elements. (1, 2, and 6)
2. The ability to use the function generator to produce sinusoidal, square, and triangle waveforms with different frequencies and magnitudes, with or without DC offset. (1, 2, and 6)
3. The ability to use the oscilloscope to display and measure electrical voltage signals. (1, 2, and 6)
4. The ability to use the DC power supply to produce a constant DC voltage. (1, 2, and 6)
5. The ability to prototype and test electric circuits on a breadboard. (1, 2, and 6)
6. The ability to solder the electrical devices onto a circuit board (1, 2, and 6)
7. The understanding that frequency and time are different and both time- and frequency-domain representations have a place in our comprehension of signals. (1)
8. Appreciation of the capabilities of the MATLAB programming environment and a modern digital signal processor. (1, 2, and 6)
9. Familiarity with a project report format that meets EE standards. (3)
10. Familiarity with the EE department emphases, available laboratory resources, and EE student organizations.

Associated Program Outcomes

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Grading Policy

Grades will be based on attendance and in-class work (50%), laboratory reports (30%), and a final project (20%).

A = 4.00 (>93.0%)	B+ = 3.30 (87.0-89.9%)	C+ = 2.30 (77-79.9%)	D+ = 1.30 (67-69.9%)
A- = 3.70 (90.0-92.9%)	B = 3.00 (83.0-86.9%)	C = 2.00 (73-76.9%)	D = 1.00 (60-66.9%)
	B- = 2.70 (80.0-82.9%)	C- = 1.70 (70.0-72.9%)	F = 0.00 (<60%)

Grades on individual pieces of work will not be changed more than one week after the submission. This includes any late work or any appeals (see homework section below).

Grades on individual pieces of work will be posted in Canvas. Unless otherwise indicated, grades reported in Canvas represent only the score for each individual piece of work. Any computation of grades performed by the Canvas software should be disregarded. Course grades can be determined by the

formula given in the syllabus. The instructor's grading spreadsheet contains the only copy of official grades.

Class Attendance Policy

Regular attendance is required, and attendance constitutes a large part of your grade. Student must avoid any excuses such as missing class, announcements, information, and the due dates. But, student have the right to miss the class for religious observances. Students wishing time off for this reason must let the instructor know within the first two days of class.

Late Submission Policy

Student must follow the due dates for any submission (e.g., lab report, project report etc.) and **no late submission will be accepted unless it's an emergence** (e.g., family emergence or health issues). In case of emergence, student must contact the instructor immediately and submit sufficient proof for that (e.g., medical report or doctor visit etc.). For any circumstances, student must avoid the following excuses:

1. Somehow forget the due date and looking for the extended due date.
2. Mistakenly submit work from another course and want to resubmit.
3. Submit only one page and forget to add all pages as a mistake.
4. No health issue excuse without proper documents.
5. Prepare for the exam for other courses and looking for the extended due date.
6. If you cannot submit it online because of any technical error, you must show the exact error message as a proof.
7. You submit it online, but it's not showing as an error.

Academic Misconduct

Cheating on any assignment will result in reduction of the students' grade or dismissal from the course. Any submitted work with an overwhelming similarity between two or more students work will be deemed as plagiarism, and only 50% of the lowest point given among the similar works will be distributed between the grades of those with the similar works. **Studying in a college is an honor for everyone, and every credit he/she earned must result from his/her own efforts.**

Religious Observances

Students have the right to miss class for religious observances. Students wishing time off for this reason should let the instructor know within the first two days of class.

Computer Uses

Word, Excel, and Spice will be used. MATLAB may also be used.

How to Access Course Materials?

1. Follow the link below and log on to Canvas with your NetID
<https://campus.uwplatt.edu/canvas>
2. Select the course (Electrical Engineering Projects and Tools) from the Dashboard