Intro to Electrical and Computer Engineering
EE1305/EE1105
Syllabus

Course Description (EE1305/EE1105): In this course students will learn how to use electronic components to build and design circuits for a variety of medical and miscellaneous sensor applications. Through hands on activities, the course will emphasize (1) mathematical and systems concepts that form the basis for electrical engineering, (2) an introduction to circuit components, voltage and current concepts, and (3) sinusoidal signal characteristics, basic filter responses and bandwidth concepts. Introduction to Electrical Engineering laboratory procedures, causes, and correction of errors in measurements theory of operation and usage of basic Electrical Engineering test instruments, and report writing.

Co-requisite for Course: EE1105
Pre-requisites for Course: MATH 1411 with a grade of "C" or better, may be taken concurrently with EE 1305.

Course Website: https://piazza.com/utep/fall2016/ee1305ee1105/home. The course website includes all notes/powerpoints, required supplies, syllabus, schedule, lab modules, and the open lab schedule.

Textbook: None

Instructor: Stella A. Quinones
stellaq@utep.edu
A311
(915) 747-6939
Office Hrs: W: 10 am – 12 noon, R: 8 am - 10 am

Teaching Assistants:
Larissa Tarango
Juan Lopez
Roberto Martinez
Bianca Castillo
Hector Mota-Aguilar

Learning Outcomes:
1. Measure and interpret signals using the Analog Discovery device (oscilloscope and waveform functions).
2. Model experimental data using MATLAB.
3. Analyze Simple Circuits using KVL, KCL and voltage divider methods.
4. Construct circuits using passive and active components.
5. Build, analyze, and model low pass, high pass filters.
6. Design circuits using sensor inputs to create a measureable output.

**Modules:** Safety, Power Supply, Pendulum, Strain Gauge I and II, EKG, O₂ Sensor, Glucose Sensor, Blood Pressure Sensor, Ballistocardiograph, Distance Sensor (see Schedule).

**Lecture:** The lecture for EE1305 (12157) takes place on Friday, in BUSN 332, from 10:30 am – 1:20 pm. The lecture will be used to introduce theoretical concepts that will help you to understand the module taking place the following week. You will practice solving problems in teams that will help build your vocabulary and theoretical background in order to understand experimental measurements and observations in the laboratory. The lecture will also include a demonstration of the module scheduled for the following week so that you better understand if you are on the right track. Make sure to read the module before the lecture so that you can ask questions. It also helps to read the module and take notes prior to the lab.

All homework problems should be solved on engineering paper using the following format:

1. Include EE 1305, Name, Group No., Date
2. Statement of the problem with each solution
3. Answer Underlined
4. Horizontal line separating each question
5. Neat solutions with legible handwriting

**Laboratory:**
Monday Lab (13369): 10:30 am – 1:20 pm, E340
Wednesday Lab (17108): 1:30 pm – 4:20 pm, E340
Thursday Lab (11959): 10:30 am – 1:20 pm, E340
Open Lab is located in E301E (see schedule on course website)

All lab reports are due the following week prior to your scheduled lab (all students have 1 week to complete their lab reports following their lab). Make sure to follow the lab report instructions on Thinkscape or the report template on the course website. You will progress from the Thinkscape format to the report template as the semester progresses. You will be given a demonstration of Thinkscape during the first week of lab. **Late reports will not be accepted**, even if you are absent from your lab. If you have a documented excuse that prevents you from completing your lab report on time, please contact your professor as soon as possible.
**Teams:** Students will form teams during the first day of class after several team building exercises. The teams students form are independent of which lab they are enrolled in. Teams will submit 2-3 assignments during each lecture. These assignments need to follow the homework format and will count towards 15% of the final grade.

**Attendance:** Attendance will be recorded at the beginning of class and will count towards 10% of the final grade. Students will obtain attendance credit by signing in on the Attendance Sheet prior to class and lab. If you arrive after the attendance sheet is picked up, you will lose all attendance credit for that day. When absent, the student is responsible for obtaining notes, handouts, and assignments and for meeting the same deadlines as the rest of the class. Excused absences are limited to documented medical emergencies, religious holidays and UTEP sponsored and/or required activities. If you do have an emergency, please notify me as soon as possible. Emergencies happen, unexpected situations arise, and you should use common sense and safe precautions when trying to get to class or lab.

**Course Grade:** Your grade for EE1305 and EE1105 will consist of the following components, and will result in the same average and letter grade for both EE1305 and EE1105.

Lab and Lecture Attendance: 10%
Lab Modules/Reports: 75%
Lecture Assignments/Homework: 15%

**Course Drop Deadline:** October 28, 2016

**Scholastic Integrity:** As an entity of The University of Texas at El Paso, the Department of Electrical and Computer Engineering is committed to the development of its students and to the promotion of personal integrity and self-responsibility. The assumption that a student's work is a fair representation of the student's ability to perform forms the basis for departmental and institutional quality. All students within the Department are expected to observe appropriate standards of conduct. Acts of scholastic dishonesty such as cheating, plagiarism, collusion, the submission for credit of any work or material that are attributable in the whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts will not be tolerated. Any case involving academic dishonesty will be referred to the Engineering Dean's Office and the Office of the Dean of Students. The Dean of Students will assign a Student Judicial Affairs Coordinator who will investigate the charge and alert the student as to its disposition. Consequences of academic dishonesty may be as severe as dismissal from the University. See the Office of the Dean of Students' home page at [www.utep.edu/dos/acadintg.htm](http://www.utep.edu/dos/acadintg.htm) for more information.
Acknowledgement:
I acknowledge that I have received the syllabus for EE 1305 and EE1105 for the Fall 2016 semester, and that I understand all attendance and homework requirements.

__________________________________________________
Print Name

__________________________________________________
Student Signature

__________________________________________________
Date