

EDCT Laboratory

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Introduction

Electronics devices and circuit theory is the second electronics laboratory in iMTech ECE curriculum. This is a one credit hours course. Topics include, but are not limited to, passive devices, active devices, negative and positive feedback, oscillators and others. Additionally, students will learn simulating circuits using software such as *Multisim*, and plotting readable graphs using *MS Excel* or *Libreoffice* or *gnuplot*.

Office Hours and Appointments

Dr. Madhav Rao, 112 IIITB, mr@iiitb.ac.in
Office Hours: Friday - 9 AM to 11 AM

Exams

There will be two exams: MidTerm and a Final Exam. The exams will test your practical knowledge on developing, simulating a circuit asked or given to you.

Experiments

There will be atleast 10 experiments. The students involvement and completion of the experiments will be judged. Once completed, the student will demonstrate the experiment to the instructor or lab-incharge. The instructor may ask to modify the experiment accordingly and will expect a clear justification on the behavior of the modified circuit to give points.

Lab reports and assignments

Students with their lab partners will write lab reports which will include only plots of the experiments performed in the lab. The plot should be readable and proper meaningful caption is required for all the plots. The lab reports will be graded on the presentation of the data. Students are encouraged to use either *Matlab*, *gnuplot*, *Libreoffice* or *MS Excel* softwares to plot the data. Incomplete data with no legends, labels will be rejected.

Quizzes and Assignments

Lab quizzes be held almost in every alternate week, prior information will be given to you in LMS or in previous class. Assignments will be given intermittently to get more practice.

Projects

Two projects are involved in this lab course. Students in group of four can work on projects. Students are encouraged to start working on their project from the beginning week of the class. The project will test the group of students skills on electronics. The project should be demonstrated to the instructor in the last week of the semester. The project submission involves a poster and a video. No arduino should be used in this semester projects. The first project is due before 16th Feb, 2017, 12 noon. The second project is due before 27th April, 2017, 12 noon.

Textbook

The art of electronics Students manual by Paul Horowitz and Winfield Hill is recommended for students for lab course.

Grading

Grades will be determined by the following percentages:

Percentage	Task
25%	Midterm exam
25%	Final Exam
20%	Quizzes
10%	Demonstration of experiments
10%	Lab reports and assignments
10%	Two Projects

Unexcused absence will result in losing of 2 points from the overall grade. For exams, grading is based upon the straight scale percentage of successfully completed problems. No make up quiz or an exam will be conducted.

Other Details

Please be in your seat by the beginning of class. There is to be no food or drink in the classroom. Sleep is allowed only in the event of a stuftifyingly boring lecture. Being caught reading a newspaper, using the computer for purposes other than the class or texting on a cell phone will count as half an unexcused absence (1 point). Schedule changes, assignment clarifications, and such will be announced via the LMS. Lab reports, assignments are to be submitted electronically by 11:59:59 a.m. on the day they are due. If your writeup looks as if you have plagiarized someone else's writeup, both writeup's will be forwarded to the Director of the IITB. Further you will be considered guilty of plagiarism. Interaction with fellow classmates on tasks and reports are encouraged, but there should be no sharing of write-ups, only an exchange of high-level ideas. The minimum punishment requested for plagiarism, or any other academic misconduct, is dismissal from the class with a failing grade. You are required to protect your work from plagiarism. If your work is plagiarized, it will be assumed that you were a willing participant in the plagiarism and you will receive the same punishment as the plagiarist, absent evidence to the contrary. Attendance is required. For each unexcused absence (except the first), your final percentage will suffer a deduction of 2 points (see previous section). Thus, five unexcused absences beyond the first may lower your score one full letter grade. Even one unexcused absence beyond the first will likely lower your final grade a plus/minus value. An absence will be excused if you alert your instructor prior to the start of the class you will be missing. If you do not inform your instructor before the start of a missed class, you will need to provide a written, institute authorized excuse in the subsequent class.