Electrical Engineering 3101: Electronics I Laboratory  
Prior Number - Electrical Engineering 255

Credit and Contact Hours
1 credit hour laboratory (One 110-minute sessions per week). This laboratory is taken simultaneously with Electrical Engineering 3100 (253).

Instructor
Graduate Teaching Assistants coordinated by a faculty member  
R. Moss, Ph.D. (faculty coordinator)

Text(s)
Electronic I Laboratory Manual  
Available at: http://ece.mst.edu/currentcourses/classnotesinfo/

Course Information
Course Description
Experiments in design with diodes, transistors, differential and operational amplifiers, and logic components.

Prerequisites
Electrical Engineering 2120 (153), Electrical Engineering 2200 (121), Electrical Engineering 2201 (122), and Computer Engineering 2210 (111) with a grade of “C” of better. Passing the Electrical Engineering Advancement Exam II and III. Electrical Engineering 3100 (253) is a corequisite.

Required or Elective
Required for electrical engineering majors

Course Goals
General Outcomes
1. To provide an experimental design, data measurement, and data analysis experience based upon the lecture course material in electronics.  
2. To provide students with a background in electronic design and measurement in preparation for participation in the senior project design course.
### Relationship of Course to Program Outcomes

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S – strong connection; M – medium connection; W – weak connection

### Topics Covered

1. Safety and lab introduction (1 week)
2. Operational amplifier basics (1 week)
3. Semiconductor diodes (1 week)
4. Diodes circuit – rectification (1 week)
5. Bipolar junction transistors (1 week)
6. BJT amplifiers (1 week)
7. Field effect transistors (1 week)
8. FET amplifiers (1 week)
9. Semester project (8 weeks)