

EE 101 Basic Electronics

Spring Semester, 2002

Physical Location: 216 NSC; M&W 2-2:50PM

Virtual Location: <http://www.eng.buffalo.edu/~ahtitus/Classes/>

Course Description: EE 101 BASIC ELECTRONICS (3) LEC/LAB -

An introductory electronics course for engineering and science majors. The emphasis is on electronic systems organization, digital data acquisition and transmission. A laboratory once a week illustrates these techniques by specific circuit.

Prerequisites: None

Instructor: Dr. Albert H. Titus
213 Bonner Hall, ahtitus@eng.buffalo.edu

Textbook: J.R. Cogdell, **Foundations of Electronics**, Prentice Hall, 1999.

Webpage: <http://www.eng.buffalo.edu/~ahtitus/Classes/>
All course handouts can be found there.
Lecture material may be posted there, but most will not be.
Visit the site often for announcements!

Objectives:

1. To introduce students to fundamental concepts in Electrical Engineering
2. To provide background for future interdisciplinary work with Electrical Engineering majors

Topics:

1. Introduction to Electrical Engineering (1 class)
2. Electric Circuit Theory (4 classes)
3. Semiconductor Devices and Circuits (Diodes, BJTs and FETs) (4 classes)
4. Digital Electronics (Boolean logic, AND, OR, etc.) (4 classes)
5. Analog Electronics (Filters, Op Amps) (4 classes)
6. Instrumentation Systems (Sensors, A/D conversion) (4 classes)
7. Communication Systems (Radio Principles, Electromagnetic Waves, Antennas, Fiber Optics) (5 classes)
8. Course Summary (1 class)

*These are approximate

Laboratory Exercises: See Webpage for lab manual and projects

Class Schedule:	Two 50-minute lectures per week, one 120-minute laboratory per week
Computer Usage:	As needed. One lab assignment is focused on computer usage.
Professional Component:	Discussion of preparation of documents for communicating technical information. Group projects allow students to learn to work as part of a team.
Grading:	Homework: not graded Three half-hour quizzes: 10% each Final Exam: 24% Lab reports (six informal): 3% each Final project (formal report): 25% Peer Evaluation (group performance): 3%
Late Work:	Lab reports turned in late will not be accepted (Grade of U) Missed quizzes will result in a grade of zero (illness only with a physician's note) Incompletes given only for extreme hardship cases
Office Hours:	Monday: 3-4PM, Wednesday 11AM-12noon, and by appointment
Tas	John Matyjas (215 and/or 217 Bonner Hall) Sreeja Raghunath (215 and/or 217 Bonner Hall)