

Southern Illinois University at Carbondale
Spring 2009
Syllabus: ECE 345 Electronics

Instructor:

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Office Hours: MW 2:00–3:30 PM, and by appointment.

Lecture: MWF 11:00–11:50 AM, ENGR. A-220

Labs: Section 001 R 8:00–10:50 AM, ENGR. E-237
Section 002 R 11:00 AM–1:50 PM, ENGR. E-237

Textbook: Adel S. Sedra and Kenneth C. Smith, “Microelectronic Circuits, 5th Edition”, Oxford University Press, 2004.

Another excellent book: Behzad Razavi, “Fundamentals of Microelectronics”, Wiley, 1st edition (January 28, 2008).

Course Topics:

Introduction microelectronics, electronics systems

Diodes p - n junctions, diode characteristics
Ideal diodes, diode model, diode circuits

BJTs BJT structures, BJT characteristics
BJT biasing, and BJT amplifiers

MOSFETs MOSFET structures, and characteristics,
MOSFET biasing, amplifiers, and CMOS digital logic circuits

OPamps Ideal operational amplifiers (op-amps), op-amp application circuits, non-ideal characteristics of the op-amp

Evaluation:

Quizzes (best 5/7)	25%
Homework	15%
Midterm	20%
Final	25%
Lab	15%

Note:

1. Students are responsible for all announcements made in class.
2. Emphasis will be given on the *conceptual understanding* of the subject-matter rather than on memorization of equations.