

ELECTRONICS I: 2013 Spring

- General Information**

Office: E11-314, Phone: 950-6603,

Office Hour: Wed. 10:00-12:00 AM, and Fri. 10:00-12:00 AM

Home Page : <http://m80.knu.ac.kr/~SMPC/>

Tests and Help Sessions:

Help session for Test #1	April 9 th Tue: 7:00-9:00 PM, IT ₁ -315
Test #1	April 11 th Thu: 7:00-9:00 PM, IT ₁ -315, 317
Help session for Test #2	May 14 th Tue: 7:00-9:00 PM, IT ₁ -315
Test #2	May 16 th Thu: 7:00-9:00 PM, IT ₁ -315, 317

Class Changes:

Original schedule	New schedule
March 19 th Tue	March 9 th Sat: 10:30-11:45 AM, IT ₁ -315
March 21 st Thu	April 13 th Sat: 10:30-11:45 AM, IT ₁ -315
June 6 th Thu	June 1 st Sat: 10:30-11:45 AM, IT ₁ -315

PSpice Lab:

April 3rd – April 5th : 7:00-9:00 PM, IT₂-114

- Course Outline:** As the first core course in electronics, the class will cover the device fundamentals and application circuits of diodes, BJTs, and MOSFETs. Basic concepts and analysis techniques for amplifiers will be addressed. *A strong emphasis will be placed on the computer-aided analysis of electronics circuits using PSpice software.*
- Text:** A. S. Sedra and K. C. Smith "Microelectronic Circuits," 2011, 6th Edition, Oxford.

Tentative Course Outline

Topic	Major Contents	Duration
<i>Electronics and Semiconductors:</i> Chapter 1	<ul style="list-style-type: none"> • Electronics, microelectronics, and amplifiers • Semiconductor basics and pn junction 	2 weeks
<i>Diodes:</i> Chapter 3	<ul style="list-style-type: none"> • Ideal diodes • Terminal characteristics of junction diodes • Small-signal model and its applications • Zener diodes • Rectifiers and other application circuits 	2 weeks
Test #1		
<i>Bipolar Junction Transistors:</i> Chapter 4	<ul style="list-style-type: none"> • Device structure and physical operation • Current-voltage characteristics • BJT circuits at DC • BJT as amplifier • Small-signal operation and models • Basic BJT amplifier configurations • Biasing in BJT amplifier circuits • Discrete-circuit BJT amplifiers 	4 weeks
Test #2		
<i>MOS Field-Effect Transistors:</i> Chapter 5	<ul style="list-style-type: none"> • Device structure and physical operation • Current-voltage characteristics • MOSFET circuits at DC • MOSFET as amplifier • Small-signal operation and models • Basic MOSFET Amplifier configurations • Biasing in MOS amplifier circuits • Discrete-circuit MOS amplifiers 	5 weeks
Final Exam		

- Grading Policy:**
Test #1, Test #2, and Final Exam: 28% each Homework: 16%
- Honor System:** Students should develop their own solutions to homework problems.
Late homework will not be accepted. All students retaking this course will only receive 93 % of the total credit that he or she will earn in this course