

## EECS 312 - Electronics Circuits I (Spring 05)

MWF 12:30-1:20, Room 1136 Learned Hall

**Instructor:** Prof. Ron Hui, ([hui@eecs.ku.edu](mailto:hui@eecs.ku.edu))

**Course Website:** [www.ittc.ku.edu/~hui/EECS312.htm](http://www.ittc.ku.edu/~hui/EECS312.htm)

**Office:** 3026 Eaton Hall 864-8814  
306 Nichols Hall 864-7740

**Office Hours:** 10:30 - 11:20pm, MWF, **and by appointment.**

**Catalog Listing:** EECS 312 Electronic Circuits I (3). Introduction to diodes, BJTs and MOSFETs, and their use in electronic circuits, especially digital circuits.  
**Prerequisite:** EECS 212, and 300-level EECS eligibility.

**Course Objective:** To provide an introduction to electronic devices and digital electronic for both EE and CoE majors.

**Required Text:** *Microelectronic Circuits*, by Sedra & Smith, **5th Edition**, ©2004

**Suggested Text:** *KC's Problems and Solutions*, by K.C. Smith

**Grading:** The following factors will be used to arrive at the final course grade

Homework	10 %
Exam I	25 %
Exam II	25 %
Final Exam (comprehensive)	40 %

**Grading Scale:** Grades will be assigned to the following scale:

A	90 - 100 %
B	80 - 89 %
C	70 - 79 %
D	60 - 69 %
F	< 60 %

These are guaranteed **maximum** scales and may be revised **downward**.

**Homework:** Homework will be collected at the **beginning** of class on a roughly weekly basis. Collaboration with classmates is permitted. **Copying is not permitted.**

**Exams:** No make-ups for (excused) missed exams will be given. The first missed exam will be scored by taking 90% of the average of the other exams. Subsequent missed exams will be scored as zero.

**Ethics Policy:** *Academic misconduct will **not** be tolerated. It will result in a **failing grade** and may result in further disciplinary action by the University. For details see the Academic Misconduct section of the Timetable.*

**Course Outline:**

Chapter	3	Diodes
Chapter	4	Field-Effect Transistors (FETs)
Chapter	5	Bipolar Junction Transistors (BJTs)
Chapter	10	CMOS Digital Circuits
Chapter	11	Memory and advanced digital Circuits

## EECS 312 - Preliminary Course Schedule (Spring 05)

Day	Period	Date	Material
Friday	1	21-Jan	Introduction and Syllabus
Monday	2	24-Jan	Sec 3.1
Wednesday	3	26-Jan	Sec 3.1
Friday	4	28-Jan	Sec 3.2
Monday	5	31-Jan	Sec 3.2
Wednesday	6	2-Feb	Sec 3.3
Friday	7	4-Feb	Sec 3.3
Monday	8	7-Feb	Sec 3.4
Wednesday	9	9-Feb	Sec 3.4
Friday	10	11-Feb	Sec 3.5
Monday	11	14-Feb	Sec 3.5
Wednesday	12	16-Feb	Sec 3.6
Friday	13	18-Feb	Sec 3.7
Monday	14	21-Feb	Sec 3.7
Wednesday	15	23-Feb	Sec 3.8 (Last material on exam I)
Friday	16	25-Feb	Sec 4.1
Monday	17	28-Feb	Sec 4.1
Wednesday	18	2-Mar	Sec 4.2
Friday	19	4-Mar	Sec 4.2
Monday	20	7-Mar	Sec 4.3
Wednesday	21	9-Mar	<b>EXAM I</b>
Friday	22	11-Mar	Sec 4.3
Monday	23	14-Mar	Sec 4.4
Wednesday	24	16-Mar	Sec 4.4
Friday	25	18-Mar	Sec 4.6
Monday	26	21-Mar	<i>Spring break</i>
Wednesday	27	23-Mar	<i>Spring break</i>
Friday	28	25-Mar	<i>Spring break</i>
Monday	29	28-Mar	Sec 4.6
Wednesday	30	30-Mar	Sec 1.7
Friday	31	1-Apr	Sec 4.10
Monday	32	4-Apr	Sec 4.10
Wednesday	33	6-Apr	Sec 4.11 (Last material on exam II)
Friday	34	8-Apr	Sec 10.3
Monday	35	11-Apr	Sec 10.3, 10.4
Wednesday	36	13-Apr	Sec 10.4
Friday	37	15-Apr	Sec 11.1
Monday	38	18-Apr	Sec 11.3, 11.4
Wednesday	39	20-Apr	Sec 11.5, 11.6
Friday	40	22-Apr	<b>Exam II</b>
Monday	41	25-Apr	Sec 5.1
Wednesday	42	27-Apr	Sec 5.1
Friday	43	29-Apr	Sec 5.2
Monday	44	2-May	Sec 5.2
Wednesday	45	4-May	Sec 5.3
Friday	46	6-May	Sec 5.4
Monday	47	9-May	Sec 5.4
Wednesday	48	11-May	Review
Thursday		19-May	<i>Final Exam</i> , 10:30-1:00pm

## Homework Policy

1. Homework is assigned each **Wednesday**.
2. Assignment is due the following Wednesday at the **beginning** of class.
3. Homework turned in after the **beginning** of class will receive 2/3 credit.
4. Homework turned in after homework is returned will receive no credit.
5. Each homework problem is worth 10 points.
6. Homework **solutions** will be available in the **library** when homework is returned.
7. **Organization**, completeness and presentation **will be** considered when grading homework (e.g., carefully draw circuits and label all voltages and currents).

## **Hints for EECS 312 Success**

1. **Know your circuits** - Make sure you remember/understand the material from EECS 211/212, particularly **Kirchoff's circuit law** and Ohm's law.
2. **Seek insight, not process** - Try to understand the why and how of semi-conductor circuits. Don't merely mimic a process. Remember, this is physics, not just mathematics.
3. **Be thorough** - As you read through your notes, text, examples, handouts, etc., you will frequently run into a line, paragraph, or entire section that you don't understand. Do you skip over it, or work at it till you understand?
4. **Get help!** - I lecture during class; I **teach** during office hours.
5. **Be prepared for each lecture** - Attend each class having **read the notes** from the previous lecture, and having read the relevant **text** for the **current** lecture.