PHYS309 應用電子學一　Course Description　　2023

Lecture Time: Monday 09:00-09:50, Thursday 08:00-09:50

Lecture Room: 物 313

Instructor : J. C. Chen 陳正中 jcchen@phys.nthu.edu.tw

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Teaching Assistant: 葛順康 Office: R021 , Phone: 42327, kenkoh190@gmail.com

Office hour: Thursday 10:00-11:00 or by appointment.

Required Text: *Electronic Devices and Circuit Theory* , 11th,

by Robert L. Boylestad, Louis Nashelsky

Digital Fundamentals 10th, by Thomas Floyd

Reference: *Electronic Devices* 9th , by Thomas Floyd

Microelectronic Circuits, Sedra / Smith

The Art of Electronics, Paul Horowitz, Winfield Hill

Grading: Midterm × 2 (30%), Final Exam (40%)

Homework: There will be weekly homework assignments throughout the course.

Syllabus (Tentative)

Dates	Class
Feb 13-16	Introduction, LT-SPICE Circuit analysis
Feb 20 - 23	Ch1 Semiconductor Diode
Mar 6-9	Ch1- Ch2 Diode Applications
Mar 13-16	Ch2 Diode Applications
Mar 20-23	Ch3 Bipolar Junction Transistors (BJTs)
Mar 27-30	Ch3 Bipolar Junction Transistors (BJTs)
April 10-13	Ch3, 4/10 Midterm exam I (Ch1-Ch3)
April 17-20	Ch4 DC-Biasing –BJTs
April 24-27	Ch4 DC-Biasing –BJTs
May 1-4	Ch5 BJT AC Analysis
May 8-11	Ch5 BJT AC Analysis
May 15-18	Ch6 Field-Effect Transistors (FETs)
May 22-25	5/22 Midterm exam II (Ch3-Ch5) Ch6 - Ch7 FET biasing
May 25	Ch7 FET biasing
May 25-29	Ch8 FET Amplifiers
May 29 –June 5	Ch9 BJT and JFET Frequency Responses
June 5-8	Ch9 BJT and JFET Frequency Responses
June 12	6/12 Final Exam

1. A makeup exam will be given only in documented cases of illness or emergency.
2. Cheating is absolutely prohibitive.
3. I hope this class is inspiring and rewarding for you. If during the semester you have any suggestion for how I can improve the class, please let me know.