

PHYS309 應用電子學一 Course Description 2024

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

Office: 物 R106 tel:03-5742513

Teaching Assistant: Office: R021 , Phone: 42327,

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 $\times 2$ (30%), Final Exam (40%)

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

Syllabus (Tentative)

Dates	Class
Feb 19-22	Introduction, LT-SPICE Circuit analysis
Feb 26 – 29	Ch1 Semiconductor Diode
Mar 4-7	Ch1- Ch2 Diode Applications
Mar 11-14	Ch2 Diode Applications
Mar 18-21	Ch3 Bipolar Junction Transistors (BJTs)
Mar 25-28	Ch3 Bipolar Junction Transistors (BJTs)
April 1-8	Ch3, 4/1 Midterm exam I (Ch1-Ch3)
April 11-15	Ch4 DC-Biasing –BJTs
April 18-22	Ch4 DC-Biasing –BJTs
April 25-29	Ch5 BJT AC Analysis
May 2-6	Ch5 BJT AC Analysis
May 9-13	Ch6 Field-Effect Transistors (FETs)
May 16-20	5/16 Midterm exam II (Ch3-Ch5) Ch6 - Ch7 FET biasing
May 23-27	Ch7 FET biasing
May 30	Ch8 FET Amplifiers
June 3 – 6	Ch9 BJT and JFET Frequency Responses
June 13	Ch9 BJT and JFET Frequency Responses
June 17	6/20 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.