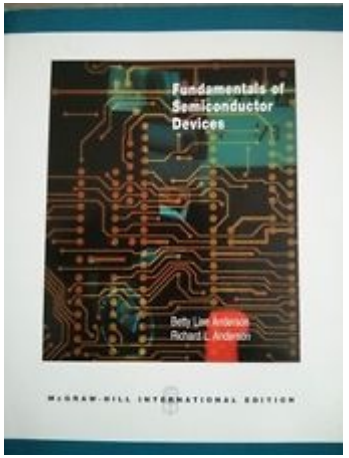
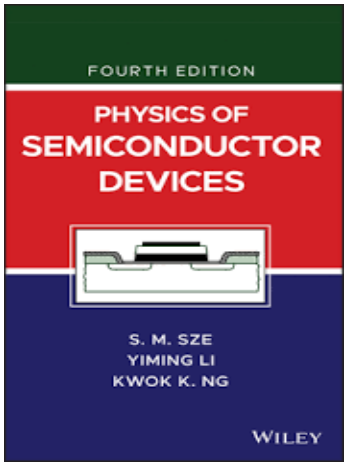
Introduction to Solid-State Electronic Devices
固態電子元件導論

EE 335000 固態電子元件導論
Introduction to Solid-State Electronic Devices





- Professor: 林崇榮 Chrong Jung Lin
- TA: 張雅玲, 陳冠儒, 莊凱晴
- Course Handouts (download from EEClass)
- Reference Books

1. Fundamentals of Semiconductor Devices (Ref.)

   by Betty L. Anderson & Richard L. Anderson

2. Physics of Semiconductor Devices (Ref.)

   by Simon M. Sze, Yiming Li, Kwok K. N

Course Description

The course of **Introduction to Solid-State Electronic Devices (固態電子元件導論)** is a foundational course designed for undergraduate students who wish to acquire a comprehensive understanding of semiconductor devices, including their fundamental characteristics, mechanisms, and underlying physics. In this course, students will learn important topics such as semiconductor band theory, carrier transportation and conduction in semiconductors, semiconductor junctions and diodes, MOS capacitors, MOSFETs, bipolar transistors, as well as VLSI memory technologies. Additionally, this course incorporates contemporary knowledge on semiconductor devices, ensuring students stay up to date with the latest advancements in the semiconductor field.

Syllabus

- Semiconductor Energy States and Bands
- Carrier Concentration and Conduction
- Semiconductor Junction and Diodes
- MOS Capacitor and 2D/3D MOSFET
- Bipolar Junction Transistor
- VLSI Memory Technology (DRAM/SRAM/Flash)

Grading Policy

- 10% for Roll Calls (randomly)
- 40% for Tests in Class (several times)
- 50% for Midterm and Final Exams