Semiconductor Device Characterization and Modelling Lab

ECE 5537

Credit Hours:
4.00

Course Levels:
Undergraduate (1000-5000 level)
Graduate (5000-8000 level)

Course Description:
Laboratory course in material characterization, device fabrication, testing and modeling.

Prerequisites and Co-requisites:
3030; or grad standing in Engineering or Physics

Course Goals / Objectives:
- Students master semiconductor characterization techniques
- Students become competent in modeling electronic and photonic device band gap diagrams
- Students become competent in SPICE and BSIM

Course Topics:
- MOS and HEMT capacitors
- Transistor IV characteristics
- Compact Modelling
- Epitaxial design and mask design
- Contacts and transport
- Breakdown and RF Modeling and Final Lab

Designation:
Elective