

ECSE 533. PHYSICAL BASIS OF SEMICONDUCTOR DEVICES.

Credits: 3

Offered by: Electrical & Computer Engr (Faculty of Engineering)

This course is not offered this catalogue year.

Description

Quantitative analysis of diodes and transistors. Semiconductor fundamentals, equilibrium and non-equilibrium carrier transport, and Fermi levels. PN junction diodes, the ideal diode, and diode switching. Bipolar Junction Transistors (BJT), physics of the ideal BJT, the Ebers-Moll model. Field effect transistors, metal-oxide semiconductor structures, static and dynamic behaviour, small-signal models.

- (3-0-6)
- Prerequisites: PHYS 271 and (ECSE 330 or ECSE 331) and (ECSE 251 or ECSE 351)

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