ECSE 433. PHYSICAL BASIS OF TRANSISTOR DEVICES.

Credits: 4

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. Laboratory experiments.

- · (3-4-5)
- Prerequisite(s): ECSE 251, ECSE 331, and MIME 262
- · (3-4-5)

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