Outline (goal) for EECS 277B Winter 2017

Schedule is tentative.

Lecture 1 Band theory of solids

Lecture 2 Electrons and holes, drift and diffusion current

Lecture 3 Homojunctions & heterojunctions, 2-terminal devices

Lecture 4 Heterojunction bipolar transistors (HBT)

Lecture 5 HBT AC properties

Lecture 6 High-frequency figures of merit: fT, fMAX

Lecture 7 Field effect devices: MOSFET, JFET, MESFET

Lecture 8 Two-dimensional electron gas (2DEG)

Lecture 9 High electron mobility transistor (HEMT)

Lecture 10 HEMT AC properties

Lectures 11-13 Emerging nanomaterials (graphene, nanotubes, nanowires)

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| W1 Intro | L1 |
| W2 L2 | L2 |
| W3 L3 | Midterm #1 |
| W4 L4 | L5 |
| W5 L6 | Midterm #2 |
| W6 L7 | L8 |
| W7 L9 | L10 |
| W8 L11 | Midterm #3 |
| W9 UCI holiday | L12 |
| W10 L13 | L14 |