

**ECEM-224: Physical Electronics II**  
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## Course Content:

Review of semiconductor physics

- Revision of basic concepts from previous semester – R1 Overview / R2 – Chapter 1

PN - Junctions

- R2 – Chapter 2

Metal Semiconductor Contact

- R2 – Chapter 3

MOS-Capacitor

- R2 – Chapter 4

MOSFETs

- R2 – Chapter 6

## Textbooks / References

Semiconductor physics:

R1. Robert F. Pierret and Gerold W. Neudeck, “Advanced Semiconductor Fundamentals (Modular Series on Solid State Devices),” Prentice Hall.

Semiconductor devices:

R2. Simon M. Sze and Kwok K. Ng, “Physics of Semiconductor Devices,” 3<sup>rd</sup> Ed., Wiley Interscience. **Link:** <https://drive.google.com/open?id=1MSUrwRDZNajYKQwgtDjDSo51sNeaqjTS>

**Literature (exclusively) to be read to stay in touch with latest developments in semiconductor devices: (4-5 years)**

- IEEE Transactions on Electron Devices
- IEEE Electron Device Letters
- IEEE Transactions on Nanotechnology