

**Department of Electrical Engineering
Indian Institute of Technology, Kanpur**

EE 210

Microelectronics-I

2017-18-II

Schedule: Lectures: 10:00 AM – 11:00 AM MWF (L1)
Tutorials: 10:00 AM – 11:00 AM Tu (TB103-TB106)

Text: Semiconductor Devices and Circuits, Alope Dutta, Oxford University Press, 2008

References:

- * Analysis and Design of Analog Integrated Circuits; P.R. Gray, P.J. Hurst, S.H. Lewis, and R.G. Meyer; John Wiley & Sons, 4th Edition, 2001
- * MOS Analog Circuits for Signal Processing; R. Gregorian and G.C. Temes; John Wiley & Sons, 1986
- * Microelectronic Circuits; A.S. Sedra and K.C. Smith; Oxford University Press, 5th Edition, 2004
- * Microelectronics; J. Millman and A. Grabel; McGraw-Hill, 2nd Edition, 1987

Instructor: Alope Dutta, WL 126, 7661, aloke

Tutors: S.S.K. Iyer (WL 122, 7820, sskiyer), S. Qureshi (WL 211, 7133, qureshi), A. Verma (WL 132, 6432, amitkver), and Alope Dutta

Topics:

1. I-V Characteristics and small-signal models of basic semiconductor devices (diodes, BJTs, and MOSFETs)
2. Biasing
3. Amplifiers
4. Output stages
5. Low- and high-frequency responses of amplifiers
6. Stability and compensation of amplifiers
7. Operational amplifiers

Grading: Tutorial Assessment (Mini-Quizzes) – 15%
2 Quizzes (30th January and 27th March) – 15%
Mid-Sem – 30%
End-Sem – 40%

Note: All course related material will be posted in Brihaspati
No make-up for any mini-quiz under any circumstances
For main quizzes and exams, make-up may be allowed only under medical emergency
