

ECE581: Advanced Analog Integrated Circuit Design

Course Description: Analysis and design of analog circuits in CMOS technology. Emphasis is on fundamental understanding and development of design intuition using both rigorous analysis and back-of-the-envelope approximations. Topics include single- & multi-stage amplifier design, feedback theory, compensation techniques, electronic noise, distortion, switched-capacitor circuits, comparators, output stages, and their application to the design of larger systems such as analog to digital converters.

Classroom	ECE 3013
Class time	T/TR 12:30–1:50pm
Instructor:	Pavan Kumar Hanumolu, hanumolu@illinois.edu
Office:	CSL 413, Ph: 217-300-6579
Office hours:	TBA
Textbook:	No text book required
Prerequisites:	ECE483 or equivalent
Course website:	http://courses.engr.illinois.edu/ece581/
TA:	Mrunmay Talegaonkar, talgnkr2@illinois.edu
TA Office hours:	TBA

Grading:

Homework/Mini projects	40%
Midterm (Nov. 20, 12:30-1:50pm, TBA)	30%
Project (Due date: Dec. 10, 11:59pm)	30%

Reference books:

- P. Gray, P. Hurst, S. Lewis, and R. Meyer, *Analysis and Design of Analog Integrated Circuits*, 5th Edition, Wiley, 2011.
- B. Razavi, *Design of Analog CMOS Integrated Circuits*, McGraw-Hill Science, 2000.
- T. Carusone, D. Johns and K. Martin, *Analog Integrated Circuit Design*, 4th Edition, Wiley, 2011.
- R. Gregorian and G. Temes, *Analog MOS Integrated Circuits for Signal Processing*, Wiley, 1986.
- Y. Tsvetkov, *Operation and Modeling of the MOS Transistor*, Oxford University Press, 2003.

Academic Honesty: Students should follow the UI standards of academic integrity described at http://www.admin.illinois.edu/policy/code/article1_part4_1-401.htm