

EE4280 Analog Integrated Circuits Analysis and Design II 2019 Spring Semester

1. Course Description:

This introductory course will cover the analysis and design of analog/mixed-signal integrated circuits for digital systems and for digital communications.

2. Prerequisite:

Electric Circuits, Electronics, Analog Integrated Circuits Analysis and Design I

3. Text books:

Design of Analog CMOS Integrated Circuits, B. Razavi, McGraw Hill, 2001.

Analog Integrated Circuit Design, D. Johns and K. Martin, Wiley, 1997.

4. References:

Fundamentals of Microelectronics, B. Razavi, Wiley, 2008

Analysis and Design of Analog Integrated Circuits, P. R. Gray, P. J. Hurst, S. H. Lewis, and R. G. Meyer, Wiley, 2001

5. Teaching Method:

Lecture: 3 hours

Outside study: 4 hours

6. Evaluation:

Homework: 40% (no late homework)

Midterm: 30%

Final: 30%

* Calculators are allowed in all examinations

7. Class Webpage: NTHU e-learning system (<http://lms.nthu.edu.tw>)

8. Instructor:

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9. Syllabus:

- * Noise
- * Nonlinearity and Mismatch
- * Oscillators
- * Basic phase-locked loops
- * Charge-pump phase-locked loops
- * Switches
- * Switched-capacitor circuits