

**EE4280 Analog Integrated Circuits Analysis and Design II    2022 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  
Signals and Systems

**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%

Midterm:             30%

Final:                 30%

\* Calculators are allowed in all examinations

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

**8. Instructor:**

Ping-Hsuan Hsieh

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**10. Tentative Syllabus:**

- \* Nonlinearity
- \* Process variation and mismatch
- \* Switches
- \* Oscillator
- \* Phase-locked loops
- \* Energy harvesting
- \* Power management