

EE752 Analog Integrated System Design

Fall 2020

Instructor: Prof. Seong-Jin Kim, School of ECE
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Classroom: EB3 411

Class hours: 2:30~3:45pm on Tuesday and Thursday

Office hours: 10:00~11:30am on Tuesday

Textbook: Class material

References: Behzad Razavi, Design of Analog CMOS Integrated Circuits,
McGRAW-HILL

Franco Maloberti, Data Converters, Springer

Marcel J.M. Pelgrom, Analog-to-Digital Conversion, Springer

Bang-Sup Song, Micro CMOS Design, CRC Press

Purpose: Introduction to fundamentals of analog-to-digital and digital-to-analog converters and study on various architectures of ADC and DAC with analog building blocks

Grading: Attendance 5%, Paper review 25%, Exam 30%, Term project 40%
Review papers related to data converters will be given to each student.
Students should pursue a design project related to analog systems.

Tentative Course Schedule

Week 1: Introduction to data converters
Week 2: Switched-capacitor circuits
Week 3: Sample and hold
Week 4, 5: Digital-to-Analog converters
Week 6, 7, 8: Nyquist-rate Analog-to-Digital converters
Week 9, 10: Review session of data converter papers
Week 11, 12: Oversampling data converters
Week 13, 14: Advanced topics
Week 15, 16: Project presentation