Syllabus

Information of Course

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Course Title
Special Topic in Advanced Materials [Advanced Semiconductor Integrated Process Design] [신소재공학특론 [고급 반도체공정 설계]]

Hours of instruction (classroom)
Wed: 15:00~18:00 / (W1) BLDG. of Applied Engineering [W1동응용과학동] (2427)

Information of Professor

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Plan of Lecture

Syllabus File
Syllabus URL

Summary of Lecture
The memory semiconductor process, device and design will be discussed from an industrial perspective. In the semiconductor processing, lithography, etch technology, diffusion technology, thin film technology, cleaning and CMP technology and flash process technology will be reviewed. In the device, DRAM technology and flash technology will be talked. Finally, in the design, DRAM design and flash design will be discussed.

- Main textbook: Handout
- Auxiliary textbook:
2. Semiconductor Device Fundamentals, Robert F. Pierret, Addison Wesley

Evaluation Criteria
Grading: 9% Homework, 45.5% Midterm, 45.5% Final Exam

Week 1: Overview Memory Tech, Overview
Week 2: Process Lithography Technology Process
Week 3: Process Etch Technology
Week 4: Process Diffusion Technology
Week 5: Process Thin Film Technology
Week 6: Process Cleaning & CMP Technology
Week 7: Process Flash Process Technology
Week 8: Midterm
Week 9: Analysis Failure Analysis Technology
Week 10: Device DRAM Technology
Week 11: Device Flash Technology
Week 12: Memory Test Memory Test Technology
Week 13: Design (DRAM) Design
Week 14: Design Flash Design
Week 15: Packaging Packaging Technology
Week 16: Final

Memo