

Integrated Circuit Process and Process Integration

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Instruction Contents

- Silicon wafer fabrication
- Lithography
- Thermal Oxidation and Si/SiO₂ interface
- Dopant Diffusion/annealing
- Ion Implantation
- Thin Film Deposition
- Etching, CMP
- Device Isolation, Contacts and Metallization
- Copper Interconnect
- CMOS processes

Text Book

Semiconductor Manufacturing Technology by Michael Quirk
and Julian Serda ISBN: 986-154-117-9

Reference

- The Science and Engineering of Microelectronic Fabrication (2nd Ed.)
by Stephen A. Campbell ISBN: 0-19-513605-5
- Silicon Processing for the VLSI Era Vol. 1- Process Technology by
Stanley Wolf and Richard N. Tauber ISBN:0-9616721-3-7
- Semiconductor Integrated Circuit Processing Technology by W. R.
Runyan and K. E. Bean ISBN:0-201-10831-3
- Silicon VLSI Technology- Fundamental, Practice and Modeling by
James D. Plummer, M. Deal, P. Griffin ISBN:0-13-085037-3
- VLSI Technology by S. M. Sze ISBN:0-07-100347-9
- Microelectronic processing by W. Scott Ruska ISBN:0-07-054280-5

Web site to download notes: <http://moodle.ncku.edu.tw>

Grading:

- For in-person physical class after Oct. 1st, 2021

Home Work: 40%, mid-term exam (30%) and final exam 30%,

Office hours: Tues. 3-5 PM

- For all on-line class (not real time) in case of covid-19...

Home work 60%, project report 40%, turn in to moodle website using file name: your ID_HW#

Email me or set up a Google meet for answering question.

加簽 ; email me and then take my reply mail to EE office.