

ENE532000 微電子工程實驗

- Instructor：邱博文教授／台達館 950／ext. 42437／E-mail: pwchiu@ee.nthu.edu.tw
- 奈材中心製程窗口：岑尚仁研究員／清華實驗室 217／ext. 42285 / E-mail：
szchen@mx.nthu.edu.tw
- 助教：TA1/ 蕭名登 ext. 34162；TA2/ 陳祐萱
- Evaluation: 1. 35 % of TCAD simulation
2. 65 % Implementation and final report
- 學生數: 32 位，分 AB 兩組

▪ Schedules:

No.	Date	Content	Instructor	Place	Remark
1	3/2	Course introduction and grouping	邱博文 教授	Delta 202	
2	3/9	Planar MOS structure and process flow	岑尚仁 博士	Delta 202	
3	3/16	RCA clean and wet oxidation (400-500 nm)	TA1	自強基金會	Outsourcing
4	3/23	Optical lithography I	CNMM staff (瀨文、明穎、培眉)	NTHU Lab (clean room)	Meet in NTHU Lab lobby
		Wet etching	CNMM staff (瀨文、明穎、培眉)	NTHU Lab (clean room)	
		Ion implantation (PMOS: boron; NMOS: phosphorus)	TA1	TSRI	Outsourcing

5	3/30	TCAD simulation I (Process)	TA2	資電 406 work station	
6	4/6	TCAD simulation II (Device)	TA2	資電 406 work station	
7	4/13	TCAD simulation III (TCAD report)	TA2	資電 406 work station	TA1 takes the wafer back
8	4/20	RTA (1000 °C x 30 s in Ar or N ₂)	CNMM staff (若穎)	NTHU Lab (clean room)	Meet in NTHU Lab lobby
		Wet etching (removing SiO ₂)	CNMM staff (瀨文、明 穎、培眉)	NTHU Lab (clean room)	
		Dry oxidation (950 °C for 20-50 nm)	TA1	自強基金會	Outsourcing
9	4/27	Optical lithography II	CNMM staff (瀨文、明 穎、培眉)	NTHU Lab (clean room)	Meet in NTHU Lab lobby
		Wet etching and PR stripping	CNMM staff (瀨文、明 穎、培眉)	NTHU Lab (clean room)	
10	5/4	Metallization using E-gun evaporation (Al: 400 nm)	CNMM staff (文鳳)	NTHU Lab (clean room)	Meet in NTHU Lab lobby
11	5/11	Optical lithography III	CNMM staff (瀨文、明 穎、培眉)	NTHU Lab (clean room)	Meet in NTHU Lab lobby
		Al wet etching	CNMM staff (瀨文、明 穎、培眉)	NTHU Lab (clean room)	
12	5/18	RTA (450 °C x 30 s in Ar or N ₂)	CNMM staff (若穎)	NTHU Lab (clean room)	

13	5/25	Transport measurements for NMOS, PMOS, and inverter	TA1		
14	6/1	Transport measurements for NMOS, PMOS, and inverter	TA1		
15	6/8	Transport measurements for NMOS, PMOS, and inverter	TA1		
16	Final report (Due by 6/15)		TA1		Submit by email: s106063804 @m106.nthu.edu.tw