

JANUARY 2025 INTAKE

Subject : Semiconductor Physics & Devices

Venue : Lecture - **LT4 at HCI**

Tutorial - **B301 and B302 at HCI**

Schedule : Lecture - Thursdays 4.00 pm - 6.30 pm

Tutorial Group T1: Mondays 3:00 pm - 5:00 pm

Tutorial Group T2: Mondays 5:00 pm - 7:00 pm

Tutorial Group T3: Tuesdays 3:00 pm - 5:00 pm

Tutorial Group T4: Tuesdays 5:00 pm - 7:00 pm

H3 WK No.	Duration	Day/Date	Timings/Groupings	Lesson Topic	Nature of Lesson (Lecture/Tutorial)	Venue
Week 1 (13 Jan - 17 Jan 2025)	2.5 hours	Tue 14 Jan	4.00 pm - 6.30 pm ALL	Introduction to Semiconductors	Lecture 1	LT 4 at HCI
	2.5 hours	Thu 16 Jan	4.00 pm - 6.30 pm ALL	Semiconductor Crystal Structure Energy Bands of Semiconductor	Lecture 2	LT 4 at HCI
Week 2 (20 Jan - 24 Jan 2025)	2 hours	Mon 20 Jan	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 1	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T2			
	2 hours	Tue 21 Jan	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 1	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T4			
2.5 hours	Thu 23 Jan	4.00 pm - 6.30 pm ALL	Doping of Semiconductors	Lecture 3	LT 4 at HCI	
Week 3 (27 Jan - 31 Jan 2025)	One Week Break (27 Jan – 31 Jan 2025) Chinese New Year on 29 & 30 Jan 2025					
Week 4 (3 Feb - 7 Feb 2025)	3.5 hours	Mon 3 Feb	3.30 pm - 7.00 pm Lab group L1	Basic Hands-on with Laboratory Equipment	Laboratory 1	NTU Venue: Electronics II Room: S2-B4a-04
	3.5 hours	Tue 4 Feb	3.30 pm - 7.00 pm Lab group L2	Basic Hands-on with Laboratory Equipment	Laboratory 1	NTU Venue: Electronics II Room: S2-B4a-04
	3.5 hours	Wed 5 Feb	3.30 pm - 7.00 pm Lab group L3	Basic Hands-on with Laboratory Equipment	Laboratory 1	NTU Venue: Electronics II Room: S2-B4a-04
	2.5 hours	Thu 6 Feb	4.00 pm - 6.30 pm ALL	Semiconductor in Equilibrium	Lecture 4	LT 4 at HCI
	3.5 hours	Fri 7 Feb	3.30 pm - 7.00 pm Lab group L4	Basic Hands-on with Laboratory Equipment	Laboratory 1	NTU Venue: Electronics II Room: S2-B4a-04

H3 WK No.	Duration	Day/Date	Timings/ Groupings	Lesson Topic	Nature of Lesson (Lecture/Tutorial)	Venue	
Week 5 (10 Feb - 14 Feb 2025)	2 hours	Mon 10 Feb	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 2	B301 and B302 at HCI	
			5.00 pm - 7.00 pm Tutorial group T2				
	2 hours	Tue 11 Feb	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 2	B301 and B302 at HCI	
			5.00 pm - 7.00 pm Tutorial group T4				
	2.5 hours	Thu 13 Feb	4.00 pm - 6.30 pm ALL		Semiconductor in Equilibrium Carrier Transport	Lecture 5	LT 4 at HCI
	Week 6 (17 Feb - 21 Feb 2025)	2 hours	Mon 17 Feb		3.00 pm - 5.00 pm Tutorial group T1		Tutorial 3
5.00 pm - 7.00 pm Tutorial group T2							
2 hours		Tue 18 Feb	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 3	B301 and B302 at HCI	
			5.00 pm - 7.00 pm Tutorial group T4				
2.5 hours		Thu 20 Feb	4.00 pm - 6.30 pm ALL	Carrier Transport Characterizations	Lecture 6	LT 4 at HCI	
Week 7 (24 Feb - 28 Feb 2025)		2 hours	Mon 24 Feb	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 4	B301 and B302 at HCI
	5.00 pm - 7.00 pm Tutorial group T2						
	2 hours	Tue 25 Feb	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 4	B301 and B302 at HCI	
			5.00 pm - 7.00 pm Tutorial group T4				
	3.5 hours	Wed 26 Feb	3.30 pm - 7.00 pm Lab group L1	L2003A – Semiconductor Parameter Measurements	Laboratory 2	NTU Venue: Electronics II Room: S2-B4a-04	
	2.5 hours	Thu 27 Feb	4.00 pm - 6.30 pm ALL	Non-equilibrium Excess Carrier	Lecture 7	LT 4 at HCI	
3.5 hours	Fri 28 Feb	3.30 pm - 7.00 pm Lab group L2	L2003A – Semiconductor Parameter Measurements	Laboratory 2	NTU Venue: Electronics II Room: S2-B4a-04		

H3 WK No.	Duration	Day/Date	Timings/ Groupings	Lesson Topic	Nature of Lesson (Lecture/Tutorial)	Venue
Week 8 (3 Mar - 7 Mar 2025)	2 hours	Mon 3 Mar	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 5	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T2			
	2 hours	Tue 4 Mar	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 5	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T4			
	3.5 hours	Wed 5 Mar	3.30 pm - 7.00 pm Lab group L3	L2003A – Semiconductor Parameter Measurements	Laboratory 2	NTU Venue: Electronics II Room: S2-B4a-04
	2.5 hours	Thu 6 Mar	4.00 pm - 6.30 pm ALL	PN Junction	Lecture 8	LT 4 at HCI
3.5 hours	Fri 7 Mar	3.30 pm - 7.00 pm Lab group L4	L2003A – Semiconductor Parameter Measurements	Laboratory 2	NTU Venue: Electronics II Room: S2-B4a-04	
Week 9 (10 Mar - 14 Mar 2025)	2 hours	Mon 10 Mar	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 6	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T2			
	2 hours	Tue 11 Mar	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 6	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T4			
2.5 hours	Thu 13 Mar	4.00 pm - 6.30 pm ALL	PN Junction	Lecture 9	LT 4 at HCI	
Week 10 (17 Mar - 21 Mar 2025)	One Week Break (17 Mar - 21 Mar 2025)					
Week 11 (24 Mar - 28 Mar 2025)	2 hours	Mon 24 Mar	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 7	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T2			
	2 hours	Tue 25 Mar	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 7	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T4			
2.5 hours	Thu 27 Mar	4.00 pm - 6.30 pm ALL	PN Junction	Lecture 10	LT 4 at HCI	

H3 WK No.	Duration	Day/ Date	Timings/ Groupings	Lesson Topic	Nature of Lesson (Lecture/Tutorial)	Venue
Week 12 (31 Mar – 4 Apr 2025)	1 hour	Tue 1 Apr	3.00 pm - 4.00 pm Tutorial group T1, T2		Tutorial 8	B301 and B302 at HCI
			4.00 pm - 5.00 pm Tutorial group T3, T4			
	1 hour		5.00 pm - 7.00 pm ALL		TEST 1 (1 hour)	LT 4 at HCI
	3.5 hours	Wed 2 Apr	3.30 pm - 7.00 pm Lab group L1	L2003B - PN Junction Devices	Laboratory 3	NTU Venue: Electronics II Room: S2-B4a-04
	2.5 hours	Thu 3 Apr	4.00 pm - 6.30 pm ALL	Metal-Semiconductor Contacts	Lecture 11	LT 4 at HCI
	3.5 hours	Fri 4 Apr	3.30 pm - 7.00 pm Lab group L2	L2003B - PN Junction Devices	Laboratory 3	NTU Venue: Electronics II Room: S2-B4a-04
Week 13 (7 Apr - 11 Apr 2025)	2 hours	Mon 7 Apr	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 9	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T2			
	2 hours	Tue 8 Apr	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 9	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T4			
	3.5 hrs	Wed 9 Apr	3.30 pm - 7.00 pm Lab group L3	L2003B - PN Junction Devices	Laboratory 3	NTU Venue: Electronics II Room: S2-B4a-04
	2.5 hours	Thu 10 Apr	4.00 pm - 6.30 pm ALL	Metal-Semiconductor Contacts	Lecture 12	LT 4 at HCI
3.5 hours	Fri 11 Apr	3.30 pm - 7.00 pm Lab group L4	L2003B - PN Junction Devices	Laboratory 3	NTU Venue: Electronics II Room: S2-B4a-04	
Week 14 (14 Apr - 18 Apr 2025)	2 hours	Mon 14 Apr	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 10	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T2			
	2 hours	Tue 15 Apr	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 10	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T4			
	2.5 hours	Thu 17 Apr	4.00 pm - 6.30 pm ALL	Light-Emitting Diodes	Lecture 13	LT 4 at HCI

H3 WK No.	Duration	Day/ Date	Timings/ Groupings	Lesson Topic	Nature of Lesson (Lecture/Tutorial)	Venue
Week 15 (21 Apr - 25 Apr 2025)	2 hours	Mon 21 Apr	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 11	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T2			
	2 hours	Tue 22 Apr	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 11	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T4			
	2.5 hours	Thu 24 Apr	4.00 pm - 6.30 pm ALL		Junction Photodetectors	Lecture 14
Week 16 (28 Apr – 2 May 2025)	1 hour	Tue 29 Apr	3.00 pm - 4.00 pm Tutorial group T1, T2	Tutorial 12	B301 and B302 at HCI	
			4.00 pm - 5.00 pm Tutorial group T3, T4			
	1 hour	Tue 29 Apr	5.00 pm – 7.00 pm ALL	TEST 2 (1 hour)	LT 4 at HCI	
Week 17 (5 May - 9 May 2025)	Study Week (5 May - 9 May 2025)					
Week 18 (12 May - 16 May 2025)	2.5 hours	Wed 14 May	2.00 pm – 4.30 pm ALL	NTU-H3 Written Examination	EXAM (2.5 hours)	NTU Venue: Hall K (Block SS3-B1-22)

Three Laboratory Experiments:

- Laboratory 1 - BASIC HANDS-ON WITH LABORATORY EQUIPMENT
- Laboratory 2 - SEMICONDUCTOR PARAMETER MEASUREMENTS
- Laboratory 3 - PN JUNCTION DEVICES

Group	Day/Date	Time	Experiment No.
Group 1	Mon, 3 Feb 2025	3.30 pm – 7.00 pm	Laboratory 1
	Wed, 26 Feb 2025	3.30 pm – 7.00 pm	Laboratory 2
	Wed, 2 Apr 2025	3.30 pm – 7.00 pm	Laboratory 3
Group 2	Tue, 4 Feb 2025	3.30 pm – 7.00 pm	Laboratory 1
	Fri, 28 Feb 2025	3.30 pm – 7.00 pm	Laboratory 2
	Fri, 4 Apr 2025	3.30 pm – 7.00 pm	Laboratory 3
Group 3	Wed, 5 Feb 2025	3.30 pm – 7.00 pm	Laboratory 1
	Wed, 5 Mar 2025	3.30 pm – 7.00 pm	Laboratory 2
	Wed, 9 Apr 2025	3.30 pm – 7.00 pm	Laboratory 3
Group 4	Fri, 7 Feb 2025	3.30 pm – 7.00 pm	Laboratory 1
	Fri, 7 Mar 2025	3.30 pm – 7.00 pm	Laboratory 2
	Fri, 11 Apr 2025	3.30 pm – 7.00 pm	Laboratory 3

Comments

All classes are in HCI, except for the three laboratory experiments which will be conducted in NTU.

Tests will be conducted in HCI, while the final examination will be conducted in NTU.

There will only be one Lecture Group, four Tutorial Groups (T1, T2, T3 and T4) and four Laboratory Groups (L1, L2 and L3)

Venue

HCI	
Lecture	- LT4 at HCI
Tutorial	- B301 and B302 at HCI
Test	- LT4 at HCI

NTU	
Laboratory 1/2/3	- Electronics II (S2-B4a-04)
Exam	- Hall K (SS3-B1-22)

2025 Public Holidays:

Term I	New Year's Day	Wed 1 Jan 2025
	Chinese New Year	Wed 29 Jan 2025
		Thu 30 Jan 2025
Term II	Hari Raya Puasa	Mon 31 Mar 2025*
	Good Friday	Fri 18 Apr 2025
	Labour Day	Thu 1 May 2025

* Subject to further confirmation (as listed in the MOE School Calendar)