

**JANUARY 2024 INTAKE**

Subject : Semiconductor Physics & Devices

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

Venue : Lecture - LT4 / AVT at HCI

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

Tutorial - B301 and B302 at HCI

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

Schedule : Lecture - Thursdays 4.00 pm - 6.30 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 (8 Jan - 12 Jan 2024)	2.5 hours	Tue 9 Jan	4.00 pm - 6.30 pm ALL	Introduction to Semiconductors	Lecture 1	LT 4 at HCI
	2.5 hours	Thu 11 Jan	4.00 pm - 6.30 pm ALL	Semiconductor Crystal Structure Energy Bands of Semiconductor	Lecture 2	LT 4 at HCI
Week 2 (15 Jan - 19 Jan 2024)	2 hours	Mon 15 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 16 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 18 Jan	4.00 pm - 6.30 pm ALL	Doping of Semiconductors	Lecture 3	AVT at HCI	
Week 3 (22 Jan - 26 Jan 2024)	3.5 hours	Mon 22 Jan	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 23 Jan	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 24 Jan	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 25 Jan	4.00 pm - 6.30 pm ALL	Semiconductor in Equilibrium	Lecture 4	AVT at HCI
	3.5 hours	Fri 26 Jan	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 4 (29 Jan - 2 Feb 2024)	2 hours	Mon 29 Jan	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 30 Jan	3.00 pm - 5.00 pm Tutorial group T3						
			5.00 pm - 7.00 pm Tutorial group T4						
	2.5 hours	Thu 1 Feb	4.00 pm - 6.30 pm ALL				Semiconductor in Equilibrium Carrier Transport	Lecture 5	LT 4 at HCI
	Week 5 (5 Feb - 9 Feb 2024)	2 hours	Mon 5 Feb				3.00 pm - 5.00 pm Tutorial group T1		Tutorial 3
5.00 pm - 7.00 pm Tutorial group T2									
2 hours		Tue 6 Feb	3.00 pm - 5.00 pm Tutorial group T3						
			5.00 pm - 7.00 pm Tutorial group T4						
2.5 hours		Thu 8 Feb	4.00 pm - 6.30 pm ALL	Carrier Transport Characterizations	Lecture 6	LT 4 at HCI			
Week 6 (12 Feb - 16 Feb 2024)		<b>One Week Break (12 Feb – 16 Feb 2024)</b>							
Week 7 (19 Feb - 23 Feb 2024)	2 hours	Mon 19 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 20 Feb	3.00 pm - 5.00 pm Tutorial group T3						
			5.00 pm - 7.00 pm Tutorial group T4						
	3.5 hours	Wed 21 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 22 Feb	4.00 pm - 6.30 pm ALL				Non-equilibrium Excess Carrier	Lecture 7	LT 4 at HCI
3.5 hours	Fri 23 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 (26 Feb - 1 Mar 2024)	2 hours	Mon 26 Feb	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 27 Feb	3.00 pm - 5.00 pm Tutorial group T3						
			5.00 pm - 7.00 pm Tutorial group T4						
	3.5 hours	Wed 28 Feb	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 29 Feb	4.00 pm - 6.30 pm ALL				PN Junction	Lecture 8	LT 4 at HCI
3.5 hours	Fri 1 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 (4 Mar - 8 Mar 2024)	2 hours	Mon 4 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 5 Mar	3.00 pm - 5.00 pm Tutorial group T3						
			5.00 pm - 7.00 pm Tutorial group T4						
2.5 hours	Thu 7 Mar	4.00 pm - 6.30 pm ALL	PN Junction	Lecture 9	LT 4 at HCI				
Week 10 (11 Mar - 15 Mar 2024)	<b>One Week Break (11 Mar - 15 Mar 2024)</b>								
Week 11 (18 Mar - 22 Mar 2024)	1 hours	Tue 19 Mar	3.00 pm - 4.00 pm Tutorial group T1, T2		Tutorial 7	B301 and B302 at HCI			
			4.00 pm - 5.00 pm Tutorial group T3, T4						
	1 hour	Tue 19 Mar	5.00 pm - 7.00 pm ALL					<b>TEST 1 (1 hour)</b>	<b>LT4 at HCI</b>
2.5 hours	Thu 21 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 (25 Mar - 29 Mar 2024)	2 hours	Mon 25 Mar	3.00 pm - 5.00 pm Tutorial group T1		Tutorial 8	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T2			
	2 hours	Tue 26 Mar	3.00 pm - 5.00 pm Tutorial group T3		Tutorial 8	B301 and B302 at HCI
			5.00 pm - 7.00 pm Tutorial group T4			
	3.5 hours	Wed 27 Mar	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 28 Mar	4.00 pm - 6.30 pm ALL	Metal-Semiconductor Contacts	Lecture 11	LT 4 at HCI	
Week 13 (1 Apr - 5 Apr 2024)	2 hours	Mon 1 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 2 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 hours	Wed 3 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 4 Apr	4.00 pm - 6.30 pm ALL	Metal-Semiconductor Contacts	Lecture 12	LT 4 at HCI
3.5 hours	Fri 5 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 14 (8 Apr - 12 Apr 2024)	2 hours	Mon 8 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 9 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 11 Apr	4.00 pm - 6.30 pm ALL	Light-Emitting Diodes	LECTURE 13	LT 4 at HCI
3.5 hours	Fri 12 Apr	3.30 pm - 7.00 pm Lab group L4	L2003B - PN Junction Devices	Laboratory 3	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 15 (15 Apr - 19 Apr 2024)	2 hours	Mon 15 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 16 Apr	3.00 pm - 5.00 pm Tutorial group T3			
			5.00 pm - 7.00 pm Tutorial group T4			
	2.5 hours	Thu 18 Apr	4.00 pm - 6.30 pm ALL			
Week 16 (22 Apr - 26 Apr 2024)	1 hour	Tue 23 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 23 Apr	5.00 pm - 7.00 pm ALL			
Week 17 (29 Apr - 3 May 2024)	<b>Study Week (29 April - 3 May 2024)</b>					
Week 18 (6 May - 10 May 2024)	<b>Study Week (6 May - 10 May 2024)</b>					
Week 19 (13 May - 17 May 2024)	2.5 hours	Fri 17 May	2.30 pm - 5.00 pm ALL	<b>NTU-H3 Written Examination</b>	<b>EXAM (2.5 hours)</b>	<b>NTU Venue: Exam Hall C (Block N2, B2c-12, North Spine)</b>

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, 22 Jan 2024	3.30 pm – 7.00 pm	Laboratory 1
	Wed, 21 Feb 2024	3.30 pm – 7.00 pm	Laboratory 2
	Wed, 27 Mar 2024	3.30 pm – 7.00 pm	Laboratory 3
Group 2	Tue, 23 Jan 2024	3.30 pm – 7.00 pm	Laboratory 1
	Fri, 23 Feb 2024	3.30 pm – 7.00 pm	Laboratory 2
	Fri, 5 Apr 2024	3.30 pm – 7.00 pm	Laboratory 3
Group 3	Wed, 24 Jan 2024	3.30 pm – 7.00 pm	Laboratory 1
	Wed, 28 Feb 2024	3.30 pm – 7.00 pm	Laboratory 2
	Wed, 3 Apr 2024	3.30 pm – 7.00 pm	Laboratory 3
Group 4	Fri, 26 Jan 2024	3.30 pm – 7.00 pm	Laboratory 1
	Fri, 1 Mar 2024	3.30 pm – 7.00 pm	Laboratory 2
	Fri, 12 Apr 2024	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, L3 and L4)

Venue

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

NTU	
Laboratory 1/2/3	- Electronics II (S2-B4a-04)
Exam	- Exam Hall C (Block N2, B2c-12, North Spine)

2024 School term break and Public Holidays

Commencement of lessons for NTU H3 taught modules		Mon, 8 Jan 2024
Term I	<b>JC2 1-week break</b>	<b>Sat 9 Mar 2024 to Sun 17 Mar 2024</b>
	New Year's Day	Mon 1 Jan 2024
	Chinese New Year	Sat 10 Feb 2024* - Sun 11 Feb 2024*
Term II	<b>JC2 School vacation</b>	<b>Sat 25 May 2024 to Sun 23 Jun 2024</b>
	Good Friday	Fri 29 Mar 2024
	Hari Raya Puasa	Wed 10 Apr 2024
	Labour Day	Wed 1 May 2024

\* **Mon, 12 Feb 2024 and Tue, 13 Feb 2024 are school holidays**