

# Master of Science in Intelligent Semiconductor Manufacturing

## Student Handbook (2023-2024)

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August, 2023

## 1. PROGRAMME AIMS

### **Programme Aim:**

The programme is designed to provide students with knowledge/skills in process control/operations, electronic and advanced packaging technologies, and materials in intelligent and semiconductor manufacturing and its related reliability science and quality engineering. Ability to solve problems and develop new processes or equipment. Students are encouraged to participate the projects with the companies. The objective of this programme is to prepare students who wish to pursue graduate degrees or enter the workforce in the field of semiconductor and electronics industry.

### **Programme Intended Learning Outcomes (PILOs):**

Upon successful completion of this Programme, students are expected to:

1. reflect on extensive knowledge in intelligent and semiconductor manufacturing in supporting problem solving, decision making and undertaking projects of discovery and innovation;
2. apply knowledge/skills in semiconductor process control/operations, electronic and advanced packaging technologies, and materials; integrate and apply engineering and knowledge in intelligent and semiconductor manufacturing and its related reliability science and quality engineering;
3. be able to generate innovative ideas, to undertake projects/research and turn the discovery & innovative ideas into practical implementation;
4. reflect on responsibility and sensitivity for environmental and societal concerns, inter-cultural issues and global development.

## 2. PROGRAMME OF STUDY

### **Required Core Courses (12 CUs)**

<b>Course Code</b>	<b>Course Title</b>	<b>Level</b>	<b>Units Worth</b>
ADSE6043	Quality and Reliability Engineering	P6	3
ADSE6109	Semiconductor Manufacturing and Management	P6	3
ADSE6201	3D IC Stacking and Advanced Packaging	P6	3
ADSE6202	Semiconductor Process Equipment and Materials	P6	3

### **Elective Courses (18 CUs)**

Select any six 3-CU courses OR three 3-CU courses and a 9-CU dissertation.

<b>Course Code</b>	<b>Course Title</b>	<b>Level</b>	<b>Units Worth</b>
ADSE6009	Project Management	P6	3
ADSE6012	Technological Innovation and Entrepreneurship	P6	3
ADSE6018	Dissertation	P6	9
ADSE6045	Industrial Case Study	P6	3
ADSE6047	Quality Improvement: Systems and Methodologies	P6	3
ADSE6106	Intelligent Manufacturing for Engineering Managers	P6	3
ADSE6203	Internship Scheme in Semiconductor Industry	P6	3
ADSE6204	VLSI/ULSI Process Integration	P6	3
ADSE6205	Semiconductor Thin Film Engineering	P6	3
ADSE6206	Packaging for Nanoelectronics	P6	3
ADSE6207	Characterization Techniques for Semiconductor Manufacturing	P6	3
ADSE8204	Process Modelling and Control	R8	3
EE6615	Nanotechnology for Devices and Microsystems	P6	3
MNE6005	Micro Systems Technology	P6	3
MNE6046	Nano-manufacturing	P6	3
MNE6051	Sustainable Green Manufacturing	P6	3
MSE6121	Thin Film Technology and Nanocrystalline Coatings	P5	3
MSE6171	Electronic Packaging and Materials	P6	3

*Remark: These elective courses will be offered subject to availability of resources.*

### 3. ASSESSMENT AND AWARD CLASSIFICATIONS

Students should observe the University's related regulations and guidelines on assessment at all times. More information can be available by referring to the websites maintained by Chow Yei Ching School of Graduate Studies (SGS).

[http://www.cityu.edu.hk/qac/assessment\\_policy/university\\_assessment\\_policy.htm](http://www.cityu.edu.hk/qac/assessment_policy/university_assessment_policy.htm)

Students will be awarded the following classifications based on their CGPA attained upon completion of all appropriate graduation requirements.

<b>Master's Degree</b>	<b>CGPA</b>
Distinction	3.65 or above
Credit	3.30 – 3.64
Pass	2.85 – 3.29

### 4. TUITION FEES AND PROGRAMME DURATION

For students admitted in 2023/24

<b>Academic Year</b>	<b>Tuition Fee</b>
2023/24	HK\$6,100 per credit
The tuition fee indicated in the above schedule will apply until the end of your study in this programme.	

**Credits required : 30 CUs**

Full time students who are not sure whether they will take up the MSc Dissertation (9 cus) in Semester B, can study 15 cus in semester A, i.e. 6 cus required core courses + 9 cus elective courses.

For those who complete 15 cus in Semester A, they can still register for 6 cus of elective courses and 9 cus of Dissertation giving a total of 30 cus in Semester B and Summer Term. All the 30 cus will be used to calculate the overall CGPA.

**Duration of study :**

<b>Normal Period</b>	<b>Maximum Period</b>
Full-time (1 year)	Full-time (2.5 years)
Part-time (2 years)	Part-time/ combined mode (5 years)

## 5. **GRADUATION DATES**

The date to be printed on the award certificates will be the graduation date of the students' graduating semester/term.

The graduation date of individual students is determined by students' own study progress. Students who complete their graduation requirements in a specific semester/term will have the corresponding graduation date of that semester/term. Students should plan their studies ahead to fulfill their graduation requirements in their preferred semester/term. After fulfilling all their graduation requirements, students will not be allowed to defer their graduation to a later semester/term.

The University's graduation dates for 2023/24 are as follows:

<b>Graduates of</b>	<b>Graduation Date*</b>
Semester A 2023/24	1 February 2024
Semester B 2023/24	3 June 2024
Summer Term 2024	2 October 2024

*\*To be printed on award certificates and transcripts*

## 6. **ACADEMIC REGULATIONS AND GUIDELINES**

Students should observe the University's academic regulations and guidelines at all times. More information can be available by referring to the websites maintained by Chow Yei Ching School of Graduate Studies.

<https://www.cityu.edu.hk/sgs/student/tpg/regulation>

## 7. **ACADEMIC HONESTY**

Academic honesty is central to the conduct of academic work. Students are responsible for knowing and understanding the Rules on Academic Honesty. To enhance students' understanding on academic honesty, all students are required to complete a tutorial on academic honesty and make a declaration on their understanding of this core academic principle online on or before 30 November 2023 in order to access their course grade.

[http://www.cityu.edu.hk/provost/academic\\_honesty/](http://www.cityu.edu.hk/provost/academic_honesty/)

## 8. **COMMUNICATIONS**

In general, students are encouraged to discuss freely any of their problems with the Programme Leaders, Year Tutors and Course Lecturers.

Specifically, the following communication channels between students and the department are recommended:

- i) Students who are having academic difficulties with a course should speak directly to the Lecturer of that course.
- ii) A student who wishes to discuss issues on a particular part of the programme should speak to the Year Tutors.
- iii) A student who wishes to discuss the overall organization of the programme should speak to the Programme Leader or his/her deputy.
- iv) A formal consultative process between students and staff exists in the department in the form of a Joint Staff & Student Consultative Committee (JSSCC). One student from each year will be elected to sit in the JSSCC Committee.
- v) One part-time student from each year of the programme and two full-time students will be elected to sit in the Programme Committee.

## 9. **PROGRAMME LEADER**

<b><u>Position</u></b>	<b><u>Staff Name</u></b>	<b><u>Tel.</u></b>	<b><u>Email</u></b>
Programme Leader	Prof. FENG Shien-Ping	3442-8413	tony.feng@cityu.edu.hk
Deputy Programme Leader	Prof. HUANG Jin Kai	3442-2268	jkhuang@cityu.edu.hk
	Prof. LIU Yingxia	3442-4728	yingxliu@cityu.edu.hk
Dissertation Coordinator	Prof. LIU Yingxia	3442-4728	yingxliu@cityu.edu.hk

## 10. **INFORMATION TO NEW STUDENTS**

### 10.1 **How to access your Personal Class Schedule**

- i) Go to <http://www.cityu.edu.hk>, then point to “Quick Links” at the top and click “AIMS”.
- ii) Log onto AIMS.
- iii) Click “Course Registration” menu.
- iv) Main menu for Web Add/Drop.
- v) Click “Current Schedule” to display details of your class schedule.

### 10.2 **How to get Instructors’ handouts through Canvas**

- i) Go to <http://www.cityu.edu.hk>, then point to “Quick Links” at the top and click “Canvas”.
- ii) Click “All Courses” under “Courses” to see all courses you have registered in the current and previous semesters.

### 10.3 How to check Programme Requirements and Course Syllabus

Go the CityU home page and click “Programme and Course Catalogue” under “Academics”.

### 10.4 Course Registration for Semester A 2023-2024

For Semester A 2023-2024, students will be pre-registered in required courses if possible.

- i) Please check your curriculum requirements, review your study plan and then make appropriate adjustments to your pre-registered courses.
- ii) Add/Drop of courses can be made through AIMS for web-enabled courses during the web registration period. Students can make use of the Add/Drop Form in AIMS to submit their add/drop requests for courses which are not web-enabled to the course-offering academic unit for approval.

How to do the Add/ Drop:

- Go to <http://www.cityu.edu.hk> and click “AIMS”.
- Login to AIMS with your EID and password.
- Select the Course Registration menu.
- Click “Application for Non Web-enabled Course & Study Load Adjustment” and the courses already registered in your current schedule will be displayed.
- Click the "Add/Drop Course".

- iii) Web registration begins on **28 August 2023** but you need to check your personal registration time tickets from “AIMS” first.
- iv) The deadline for all add/drops is **11 September 2023, 11:30 pm**.
- v) Detailed arrangements on Course Registration for Semester A 2023-2024 can be referred to the SGS website:

<https://www.cityu.edu.hk/sgs/student/tpg/coursereg>.

### 10.5 How to access your Student Email Account

- i) Go to <http://www.cityu.edu.hk>, then point to “Quick Links” at the top and click “Email”.
- ii) In the University Email Service home page, click “@my.cityu.edu.hk” under “Student” to go to CityU "Microsoft 365 " Sign In page.
- iii) At the M365 Sign-in page, please enter your CityU EID and password to login.
- v) Then you can read and compose mail after signing in.

***Important note:***

For email communication:

please state your ***student name, number and HK contact telephone number.***

## 10.6 How to check your Course Grade and GPA

Go to <http://www.cityu.edu.hk>, then point to “Quick Links” at the top and click “AIMS” then Student Record - My academic record - Grade display - Select programme

## 10.7 Credit Transfer

Applications for credit transfer must be made before a semester begins. For Semester A 2022-2023, the application period is from **13 July to 1 September 2023**. For details, please refer to SGS website:

<http://www.sgs.cityu.edu.hk/student/TPg/record/credittransfer>

## 10.8 Chow Yei Ching School of Graduates Studies (SGS) 周亦卿研究生院

Students may contact the School of Graduates Studies for the following matters:

- *Student Identity Card*
- *Academic Transcript and Testimonial*
- *Graduation and Award Certificate*
- *Letter of Certification*

Address: 4/F Fong Yun Wah Building (方潤華樓)  
Chow Yei Ching School of Graduate Studies  
Tel: 3442 9014  
Email: [tpenquir@cityu.edu.hk](mailto:tpenquir@cityu.edu.hk)  
Website: <https://www.cityu.edu.hk/sgs/>

## 10.9 Global Engagement Office (GEO)

Students may contact the Global Services Office on visa-related issues.

Address: Room 3210, 3/F, Cheng Yick-chi Building (鄭翼之樓)  
Tel: 3442 0223  
Email: [geovisa@cityu.edu.hk](mailto:geovisa@cityu.edu.hk) (For student visa application enquiries)  
Website: <https://www.cityu.edu.hk/geo/>

## 10.10 Administrative Support from Department of Systems Engineering (SYE) General Office

Mon to Fri 9:00am to 5:30pm  
*Lunch Break* 12:30pm to 1:45pm

Inquiry: 3442-9321  
Email: [sye.office@cityu.edu.hk](mailto:sye.office@cityu.edu.hk)



## Appendix I: Academic Calendar 2023/24

Semester A 2023/24

### September 2023

	S	M	T	W	T	F	S
						1	2
WK 1	3	4	5	6	7	8	9
WK 2	10	11	12	13	14	15	16
WK 3	17	18	19	20	21	22	23
WK 4	24	25	26	27	28	29	30

Events / Public Holidays

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7 Aug - 2 Sep Term Break

4 Sep - 2 Dec Semester A 2023/24

30 Day following Mid-Autumn Festival

### October 2023

	S	M	T	W	T	F	S
WK 5	1	2	3	4	5	6	7
WK 6	8	9	10	11	12	13	14
WK 7	15	16	17	18	19	20	21
WK 8	22	23	24	25	26	27	28
WK 9	29	30	31				

Events / Public Holidays

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2 Day following National Day

3 Graduation Date

7 CityU UG Info Day (non-teaching day)

23 Chung Yeung Festival

### November 2023

	S	M	T	W	T	F	S
				1	2	3	4
WK 10	5	6	7	8	9	10	11
WK 11	12	13	14	15	16	17	18
WK 12	19	20	21	22	23	24	25
WK 13	26	27	28	29	30		

### December 2023

	S	M	T	W	T	F	S
						1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31						

Events / Public Holidays

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2 Last Day of Teaching

4 - 9 Student Revision Period

11 - 23 Examination Period

25 Dec 2023 - 13 Jan 2024 Semester Break

25 Christmas Day

26 Day following Christmas Day

Semester B 2023/24

**January 2024**

	S	M	T	W	T	F	S
		1	2	3	4	5	6
	7	8	9	10	11	12	13
WK 1	14	15	16	17	18	19	20
WK 2	21	22	23	24	25	26	27
WK 3	28	29	30	31			

Events / Public Holidays

**25 Dec 2023 - 13 Jan 2024** Semester Break  
**1** First Day of January  
**15 Jan - 20 Apr** Semester B 2023/24

**February 2024**

	S	M	T	W	T	F	S
					1	2	3
WK 4	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
WK 5	18	19	20	21	22	23	24
WK 6	25	26	27	28	29		

Events / Public Holidays

**1** Graduation Date  
**9 - 15** Lunar New Year Break  
**10 - 13** Lunar New Year Holidays

**March 2024**

	S	M	T	W	T	F	S
						1	2
WK 7	3	4	5	6	7	8	9
WK 8	10	11	12	13	14	15	16
WK 9	17	18	19	20	21	22	23
WK 10	24	25	26	27	28	29	30
	31						

Events / Public Holidays

**29** Good Friday  
**30** Day following Good Friday

**April 2024**

	S	M	T	W	T	F	S
WK 11		1	2	3	4	5	6
WK 12	7	8	9	10	11	12	13
WK 13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30				

Events / Public Holidays

**1** Easter Monday  
**4** Ching Ming Festival  
**20** Last Day of Teaching  
**22 - 27** Student Revision Period  
**29 Apr - 13 May** Examination Period

**May 2024**

	S	M	T	W	T	F	S
				1	2	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	

Events / Public Holidays

**1** Labour Day  
**14 May - 8 Jun** Semester Break  
**15** Buddha's Birthday

Summer Term 2024

**June 2024**

	S	M	T	W	T	F	S
							1
	2	3	4	5	6	7	8
WK 1	9	10	11	12	13	14	15
WK 2	16	17	18	19	20	21	22
WK 3	23	24	25	26	27	28	29
	30						

Events / Public Holidays

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**14 May - 8 Jun** Semester Break

**3** Graduation Date

**10** Tuen Ng Festival

**11 Jun - 27 Jul** Summer Term 2024

**July 2024**

	S	M	T	W	T	F	S
WK 4		1	2	3	4	5	6
WK 5	7	8	9	10	11	12	13
WK 6	14	15	16	17	18	19	20
WK 7	21	22	23	24	25	26	27
	28	29	30	31			

Events / Public Holidays

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**1** HK SAR Establishment Day

**27** Last Day of Teaching

**29 Jul - 3 Aug** Student Revision Period

**August 2024**

	S	M	T	W	T	F	S
					1	2	3
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31

Events / Public Holidays

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**5 - 10** Examination Period

**12 - 31** Term Break

*(Please note that the information given in this Handbook is accurate at the time of printing in August 2023. Changes to the information may be made from time to time without prior notification.)*

For further information, please contact:

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Room P6600, 6/F, Purple Zone  
Yeung Kin Man Academic Building  
City University of Hong Kong  
83 Tat Chee Avenue  
Kowloon Tong, Hong Kong

Tel: (852)3442 9321  
Email: [sye.office@cityu.edu.hk](mailto:sye.office@cityu.edu.hk)  
Website: <https://www.cityu.edu.hk/sye/>