

College of Engineering

工學院

Department of Mechanical Engineering

機械工程學系



香港城市大學
City University of Hong Kong

Master of Science in Mechanical Engineering (MSME)

理學碩士(機械工程學)



Student Handbook
2022-2023

Master of Science in Mechanical Engineering

Student Handbook (2022-2023)

<u>CONTENT</u>	<u>Page</u>
1. Programme Aims and Objectives	2
2. Programme Intended Learning Outcomes (PILOs)	2
3. Teaching & Learning	2
4. Programme Structure	3
5. Assessment and Award Classifications	5
6. Tuition Fees and Programme Duration	5
7. Academic Regulations and Guidelines	5
8. Academic Honesty	6
9. Communications	6
10. Programme Leader and Year Tutors	6
11. Information to New Students	7
12. Application and Reimbursement Procedures for Continuing Education Fund (CEF) (For Local Students only)	9
Appendix I: Study Paths	
(a) Full-time Study Mode	11
• via taught courses	
• via dissertation	
(b) Part-time Study Mode	13
• via taught courses	
• via dissertation	
Appendix II: Map of Laboratories	15

August 2022

1. PROGRAMME AIMS AND OBJECTIVES

- To educate students to excel in advanced mechanical engineering discipline as well as to extend the boundaries of their professional competence to meet the needs of future industrial development.
- To provide opportunities for students to develop leadership and creativity by engaging in interactive learning environments and management studies.

2. PROGRAMME INTENDED LEARNING OUTCOMES (PILOs)

Upon successful completion of this programme, students will be able to:

- Acquire essential concepts and knowledge of advanced mechanical engineering as well as across the boundaries of interdisciplinary disciplines.
- Apply specialized knowledge to solve problems that are critical to future growth of industry and business.
- Work effectively with people possessing diverse educational and experiential backgrounds in mechanical related disciplines.
- Apply interdisciplinary teamwork to develop abilities to meet the increasingly competitive and dynamically changing world market.

3. TEACHING & LEARNING

- i. The programme utilizes a variety of learning modes and methods including the followings:
 - a. Lectures & Tutorials;
 - b. Co-operative Learning;
 - c. Seminars, Interactive Workshops & Panel Discussions offered by external as well as international experts, and active professionals working in the industry.
- ii. Students can bring their problems from work to class for team discussions and further analysis, and earn course credits upon obtaining satisfactory results.

4. PROGRAMME STRUCTURE

Students may obtain the MSc degree upon completion of 30 credit units by following either path of study:

- (i) 5 core courses + 5 elective taught courses; or
- (ii) 5 core courses + dissertation + 2 elective taught courses

15 credit units of Core Courses + 15 credit units of Elective Courses.

Core Courses (15 credit units)

Take all (9 credit units) as below:

Course Code	Course Title	Level	Credit Units	Remarks (e.g. College Accreditation, or Exemption Requirements, etc.)
MNE6007	Advanced Automation Technology	6	3	
MNE6113	Advanced Thermo-fluid	6	3	
MNE6116	Applied Engineering Mechanics	6	3	

and select two courses (6 credit units) from below:

Course Code	Course Title	Level	Credit Units	Remarks (e.g. College Accreditation, or Exemption Requirements, etc.)
MNE6005	Micro Systems Technology	6	3	<i>CEF course for local students</i>
MNE6051	Sustainable Green Manufacturing	6	3	
MNE6110	Mechanical Behaviour of Materials: From Metallic to Biomedical/ Biological Materials	6	3	
MNE6126	Sensors for Robotics, AI, and Control Systems	6	3	

Elective Courses (15 credit units) for the selection:

Course Code	Course Title	Level	Credit Units	Remarks (e.g. College Accreditation, or Exemption Requirements, etc.)
MNE5101	Principles of Nuclear Engineering	5	3	
MNE5103	Risk and Reliability Engineering	5	3	
MNE5112	Mechanical Design with Advanced Material & Additive Manufacturing	5	3	
BME6101	Manufacturing of Biomedical Devices	6	3	
BME6111	Biomedical Instrumentation	6	3	
MNE6001	CAD/CAM Integration	6	3	
MNE6002	Computer Controlled Systems	6	3	
MNE6005	Micro Systems Technology	6	3	<i>If not being taken to fulfill the core requirement;</i>
MNE6008	Dissertation	6	9	
MNE6045	Industrial Case Study	6	3	
MNE6046	Nano-manufacturing	6	3	
MNE6051	Sustainable Green Manufacturing	6	3	<i>If not being taken to fulfill the core requirement</i>
MNE6102	Special Topics on Advanced Structural Materials	6	3	
MNE6107	Kinetics in Nanoscale Materials	6	3	
MNE6110	Mechanical Behaviour of Materials: From Metallic to Biomedical/ Biological Materials	6	3	<i>If not being taken to fulfill the core requirement</i>
MNE6114	Control Systems and Information Processing	6	3	
MNE6115	Bio-inspired Robots	6	3	
MNE6119	Electron Microscopy	6	3	
MNE6124	Advanced Micro/Nano Robotics	6	3	
MNE6125	Engineering Methods	6	3	
MNE6126	Sensors for Robotics, AI, and Control Systems	6	3	<i>If not being taken to fulfill the core requirement</i>
MNE6127	Microfluidics: From Fundamentals to Applications	6	3	

5. 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.

<http://www.sgs.cityu.edu.hk/student/tpg/regulations/acadreg>

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

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

Students may be granted a taught postgraduate award only if they have achieved a CGPA of 2.85 or above.

6. TUITION FEES AND PROGRAMME DURATION

Tuition fees :

Local Students : HK\$5,400 per credit

Non-Local Students : HK\$5,400 per credit

Credits required : 30 CUs

All courses carry 3 credit units, except the dissertation which carries 9 credit units.

Duration of study:

	Full-time	Part-time/Combined mode
Normal period of study	1 year	1.5 years (via Dissertation) / 2 years (via Taught Courses)
Maximum period of study	2.5 years	5 years

7. ACADEMIC REGULATIONS AND GUIDELINES

Students should observe the University's academic regulations and guidelines at all times. More information is available at the website maintained by Chow Yei Ching School of Graduate Studies:
<http://www.sgs.cityu.edu.hk/student/tpg/regulations/acadreg>

8. ACADEMIC HONESTY

Academic honesty is central to the conduct of academic work. Students are responsible for knowing and understanding the Rules on Academic Honesty. As part of the University's efforts to educate students about academic honesty, all students are required to complete an online tutorial, take an online quiz and fill out an online declaration by **30 November 2022** in order to access their course grades online.

For details, please refer to the website of Office of the Provost:

http://www.cityu.edu.hk/provost/academic_honesty/university_requirement_on_academic_honesty.htm

9. COMMUNICATIONS

The following communication channels between students and the department are available:

- a) Students who have difficulties with a course of study should seek advice from the course teacher concerned.
- b) Students who wish to discuss the overall organization of the programme should consult the Programme Leader.
- c) Students who wish to discuss issues on a particular part of the programme should approach the relevant Year Tutor.
- d) The programme's Joint Staff & Student Consultative Committee helps to facilitate consultation and communication. A student from each entry cohort will be elected to sit in the Committee.
- e) In addition, a student from each entry cohort will be elected to sit in the Programme Committee which meets in every semester to discuss programme-related matters.

10. PROGRAMME LEADER AND YEAR TUTORS

<u>Position</u>	<u>Staff Name</u>	<u>Tel / Email</u>
Programme Leader:	Prof. Y.F. LI	3442-8410/ meyfli@cityu.edu.hk
Deputy Programme Leader:	Dr. Zhengbao YANG	3442-2308/ zb.yang@cityu.edu.hk
Year Tutors: 2020-21 Cohort 2021-22 Cohort 2022-23 Cohort	Dr. Zhengbao YANG	3442-2308/ zb.yang@cityu.edu.hk
Dissertation Coordinator & Examiner:	Dr. Pingan ZHU	3442-2316/ pingazhu@cityu.edu.hk

11. INFORMATION TO NEW STUDENTS

11.1 How to access your Personal Class Schedule

- i) Go to CityU home page (www.cityu.edu.hk) from any terminal on campus or off campus.
- ii) Log onto “Portal” under “Quick Links”.
If you have problems in logging in, please follow the instructions in “Having problems logging?”.
- iii) Under the tab “Student”, you can find a quick link “Student Schedule” to view your timetable for current semester. Timetable for Semester A 2022/23 is available from **26 July 2022** onwards.

11.2 How to get instructors’ handouts through Canvas

- i) Log onto Canvas (<https://canvas.cityu.edu.hk>) from any terminal on campus or off campus.
- ii) Click “All Courses” under “Courses” to see all the courses that you have registered in current and previous semesters.

11.3 How to check Programme Requirements and Course Syllabuses

Log onto the CityU home page and click “Academic Programmes”.

11.4 Course Registration for Semester A 2022-2023

For Semester A 2022-2023, students will be pre-registered in required courses in most cases if possible.

- i) The date for release of your class schedule is **26 July 2022**. 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 processed through AIMS for web-enabled courses during the web registration period. For non-web-enabled courses, approval is required from the major department and you can submit your change request by using the electronic Add/Drop Form available in AIMS.

How to do the Add/ Drop:

- Go to <http://www.cityu.edu.hk> from any terminal on campus or off campus, then point to “Quick Links” at the top and click “AIMS”.
- Log onto “AIMS” and then click “Course Registration”.
- Click “Main Menu for Web Add/Drop” and then choose “Add or Drop Classes”.

- iii) Web registration begins on **22 August 2022** (please refer to your time ticket via AIMS).
- iv) All add/drops end on **5 September 2022**.
- v) Detailed arrangements on Course Registration for Semester A 2022-2023 will be posted by **26 July 2022**. For details, please refer to SGS website:
<http://www.sgs.cityu.edu.hk/student/tpg/coursereg/>

11.5 How to access your Student Email Account

- i) Go to <http://www.cityu.edu.hk> from any terminal on campus or off campus, then point to “Quick Links” at the top and click “Email”.
- ii) In the Email Services homepage, click “@my.cityu.edu.hk” under “Student” to go to the CityU “Office 365” sign-in page.
- iii) At the “**Account:**” field in the Sign In screen, enter your Office 365 account in the form of “*YourEID-c*”, where *YourEID* is your CityU Electronic ID.
- iv) At the “**Password:**” field, enter your Office 365 Account password, then click “Log On”.

Important note:

For email communication, please state your full name, student number and contact number .

11.6 Course Exemption/Credit Transfer

Applications for course exemption or credit transfer must be made before the start of the first semester after student’s admission to the University. Students granted course exemption are required to take other courses to make up the credits required for fulfilling the award requirements. For Semester A 2022-2023, the application period is from **7 July to 26 August 2022**.

For details, please refer to SGS website:

www.sgs.cityu.edu.hk/student/tpg/record/credittransfer

11.7 Laboratory Safety Orientation

All students are REQUIRED to complete the on-line Laboratory Safety Orientation through “MNE Lab for New Students” under “Courses” menu of Canvas. A Lab Tour session will be held by the Laboratory Office in week 1 of Semester A 2022-23 for interested students.

11.8 Administrative Support from General Office

Office Hours

Mon to Fri 8:30 am to 5:30 pm
Lunch Break 12:30 pm to 1:45 pm

Inquiry: 3442-2067
Fax: 3442-0235
Email: mnego@cityu.edu.hk

12. Application and Reimbursement Procedures for Continuing Education Fund (CEF) <For Local Students only>

- i) Please read carefully the guidelines and regulations under the government website at www.wfsfaa.gov.hk/cef/ or call the 24-hr hotline 3142-2277 for enquiries. For more information, please visit MNE website at <http://www.cityu.edu.hk/mne/std-cef.htm>
- ii) With effect from 1 August 2022, applicants who apply for CEF are only required to complete Application Form [SFO 313 (2022)] and submit the supporting documents. This application form is also applicable to applicants who have opened a CEF account before 1 August 2022 to apply for fee reimbursement only.

Completion Criteria:

- A minimum attendance rate of 70% (Students should sign on the attendance record for every lesson); and
 - A Grade C+ or above of the reimbursable course(s).
- iii) Please note the references to be quoted on your documents to CEF:
Name of Institution/Course Provider : City University of Hong Kong
CEF Institution Code : 005
CEF Course Title : *Micro Systems Technology*
CEF Course Code : Please refer to MNE website
(www.cityu.edu.hk/mne)
 - iv) For seeking CEF reimbursement, students **must not** hold any other publicly-funded financial assistance for the same programme or course/ module/ unit of study.
 - v) Application for CEF reimbursement will be announced on regular basis through email announcement to students.

Suggested Study Path

MSME Study Path (2022 Cohort)

Full-time Normal Study Path via Taught Courses (1 Year)

Study Path for MSME via Taught Courses (Taking the load of ≥12 CUs / semester)

Yr.		Sem.			Courses			CUs
1	A	MNE6007 Advanced Automation Technology (3 CUs)	MNE6113 Advanced Thermo-fluid (3 CUs)	MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/ Biological Materials* <i>or</i> Elective course (3 CUs)	MNE6005 Micro Systems Technology* <i>or</i> Elective course (3 CUs)	Elective course (3 CUs)	15	
	Choose electives courses from: (a) MNE6001 CAD/CAM Integration (b) MNE6119 Electron Microscopy (c) BME6101 Manufacturing of Biomedical Devices (d) BME6111 Biomedical Instrumentation							
1	B	MNE6116 Applied Engineering Mechanics (3 CUs)	MNE6051 Sustainable Green Manufacturing* <i>or</i> Elective course (3 CUs)	MNE6126 Sensors for Robotics, AI and Control Systems* <i>or</i> Elective course (3 CUs)	Elective course (3 CUs)	Elective course (3 CUs)	15	
	Choose elective courses from: (a) MNE5112 Mechanical Design with Advanced Material & Additive Manufacturing (b) MNE6002 Computer Controlled Systems (c) MNE6046 Nano-manufacturing (d) MNE6125 Engineering Methods (e) MNE6127 Microfluidics: From Fundamentals to Applications (f) BME6114 Advanced Control Systems (g) BME6115 Biorobotics							

Total CUs = 30

Note 1: () number of credit units

Note 2: * Student must select two courses from:

“MNE6005 Micro Systems Technology, MNE6051 Sustainable Green Manufacturing,

MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/Biological Materials, and MNE6126 Sensors for Robotics, AI and Control Systems”

Note 3: The information above may be subject to changes in the programme and/or demand for individual courses.

Full-Full-time Normal Study Path via Dissertation (1 Year)

For Reference Only

Students are strongly recommended to take dissertation as their elective to complete the programme in 1 year as follows:
Study Path for MSME via Dissertation (Taking the load of ≥ 12 CUs / semester)

Yr.	Sem.	Courses			CUs
1	A	MNE6007 Advanced Automation Technology (3 CUs)	MNE6113 Advanced Thermo-fluid (3 CUs)	MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/ Biological Materials* or Elective course (3 CUs)	MNE6005 Micro Systems Technology* or Elective course (3 CUs)
	B	MNE6116 Applied Engineering Mechanics (3 CUs)	MNE6051 Sustainable Green Manufacturing* or Elective course (3 CUs)	Choose elective courses from: (a) MNE6001 CAD/CAM Integration (b) MNE6119 Electron Microscopy (c) BME6101 Manufacturing of Biomedical Devices (d) BME6111 Biomedical Instrumentation	MNE6008 Dissertation (6CUs) + (3CUs)
	S				3
Total CUs = 30					

Note 1: () number of credit units

Note 2: * Student must select two courses from:

“MNE6005 Micro Systems Technology, MNE6051 Sustainable Green Manufacturing, MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/Biological Materials, and MNE6126 Sensors for Robotics, AI and Control Systems”

Note 3: The information above may be subject to changes in the programme and/or demand for individual courses.

Part-time Normal Study Path via Taught Courses (2 Years)

Students are required to complete the five core courses plus (i) five electives or (ii) dissertation + two electives. The advice is not to take more than 11 credit units in a semester.

Study Path for MSME via Taught Courses (Taking the load of ≤ 9 CUs / semester)

Yr.	Sem.	Courses		CUs	
1	A	MNE6007 Advanced Automation Technology (3 CUs)	MNE6113 Advanced Thermo-fluid (3 CUs)	MNE6005 Micro Systems Technology* <i>or</i> MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/ Biological Materials* <i>or</i> Elective course (3 CUs)	9
	B	MNE6116 Applied Engineering Mechanics (3 CUs)	MNE6051 Sustainable Green Manufacturing* <i>or</i> Elective course (3 CUs)	MNE6126 Sensors for Robotics, AI and Control Systems* <i>or</i> Elective course (3 CUs)	9
2	A	Elective course (3CUs)	MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/ Biological Materials* <i>or</i> Elective course (3CUs)	MNE6005 Micro Systems Technology* <i>or</i> Elective course (3CUs)	6
	B	Elective course (3CUs)	MNE6051 Sustainable Green Manufacturing * <i>or</i> MNE6126 Sensors for Robotics, AI and Control Systems* <i>or</i> Elective course (3CUs)	MNE6051 Sustainable Green Manufacturing * <i>or</i> MNE6126 Sensors for Robotics, AI and Control Systems* <i>or</i> Elective course (3CUs)	6
<p><u>Elective courses in Semester A:</u> (a) MNE6001 CAD/CAM Integration (b) MNE6119 Electron Microscopy (c) BME6101 Manufacturing of Biomedical Devices (d) BME6111 Biomedical Instrumentation</p> <p><u>Elective courses in Semester B:</u> (a) MNE5112 Mechanical Design with Advanced Material & Additive Manufacturing; (b) MNE6002 Computer Controlled Systems (c) MNE6046 Nano-manufacturing; (d) MNE6125 Engineering Methods (e) MNE6127 Microfluidics: From Fundamentals to Applications; (f) BME6114 Advanced Control Systems; (g) BME6115 Biorobotics</p>					

Total CUs = 30

Note 1: () number of credit units

Note 2: * Student must select two courses from:

“MNE6005 Micro Systems Technology, MNE6051 Sustainable Green Manufacturing, MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/Biological Materials, and MNE6126 Sensors for Robotics, AI and Control Systems”

Note 3: The information above may be subject to changes in the programme and/or demand for individual courses.

For Reference Only

Part-time Normal Study Path via Dissertation (1.5 Years)

If students select dissertation as their elective, they can complete the programme as follows:

Study Path for MSME via Dissertation (Taking the load of ≤11 CUs / semester)

Yr.	Sem.	Courses			CUs
1	A	MNE6007 Advanced Automation Technology (3 CUs)	MNE6113 Advanced Thermo-fluid (3 CUs)	MNE6005 Micro Systems Technology* <i>or</i> MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/ Biological Materials* <i>or</i> Elective course (3 CUs)	9
	B	MNE6116 Applied Engineering Mechanics (3 CUs)	MNE6051 Sustainable Green Manufacturing* <i>or</i> Elective course (3 CUs)	MNE6126 Sensors for Robotics, AI and Control Systems* <i>or</i> Elective course (3CUs)	11
	S			MNE6008 Dissertation (2CUs) + (3CUs) + (4CUs)	3
2	A	MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/ Biological Materials* <i>or</i> Elective course (3CUs)			7
<p><u>Elective courses[#] in Semester A:</u> (a) MNE6001 CAD/CAM Integration (b) MNE6119 Electron Microscopy (c) BME6101 Manufacturing of Biomedical Devices (d) BME6111 Biomedical Instrumentation</p> <p><u>Elective courses in Semester B:</u> (a) MNE5112 Mechanical Design with Advanced Material & Additive Manufacturing; (b) MNE6002 Computer Controlled Systems (c) MNE6046 Nano-manufacturing; (d) MNE6125 Engineering Methods; (e) MNE6127 Microfluidics: From Fundamentals to Applications (f) BME6114 Advanced Control Systems; (g) BME6115 Biorobotics</p>					
Total CUs = 30					

Note 1: () number of credit units

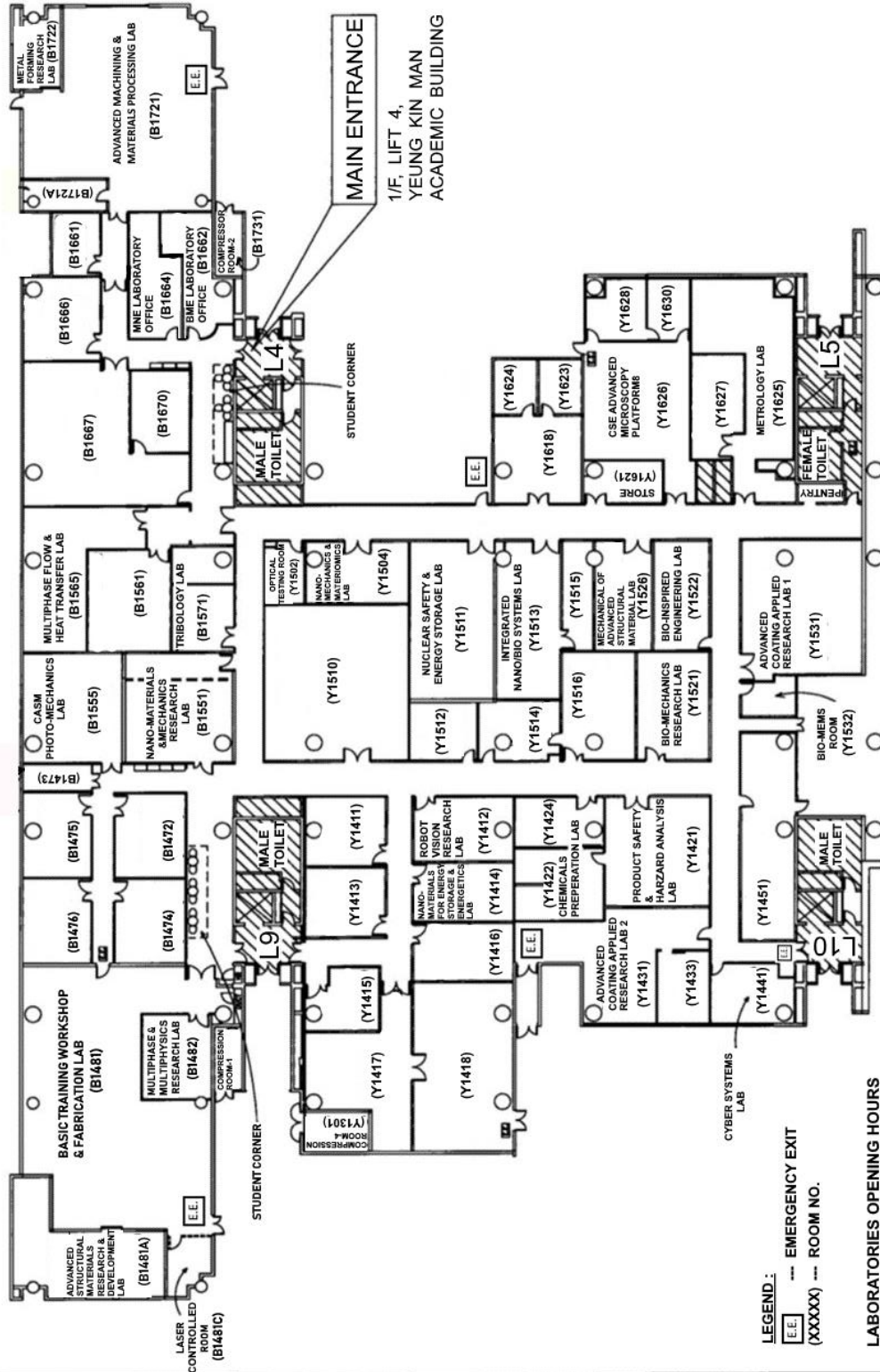
Note 2: * Student must select two courses from:

“MNE6005 Micro Systems Technology, MNE6051 Sustainable Green Manufacturing, MNE6110 Mechanical Behaviour of Materials: From Metallic to Biomedical/Biological Materials,

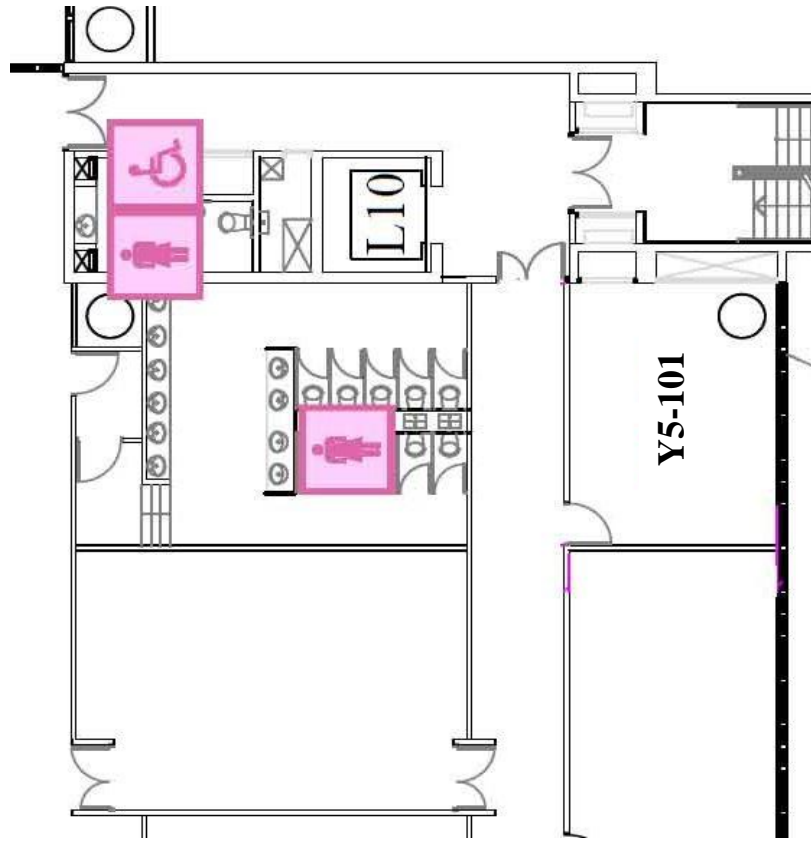
and MNE6126 Sensors for Robotics, AI and Control Systems”

Note 3: The information above may be subject to changes in the programme and/or demand for individual courses.

Mechanical Engineering (MNE) Laboratories on 1/F YEUNG

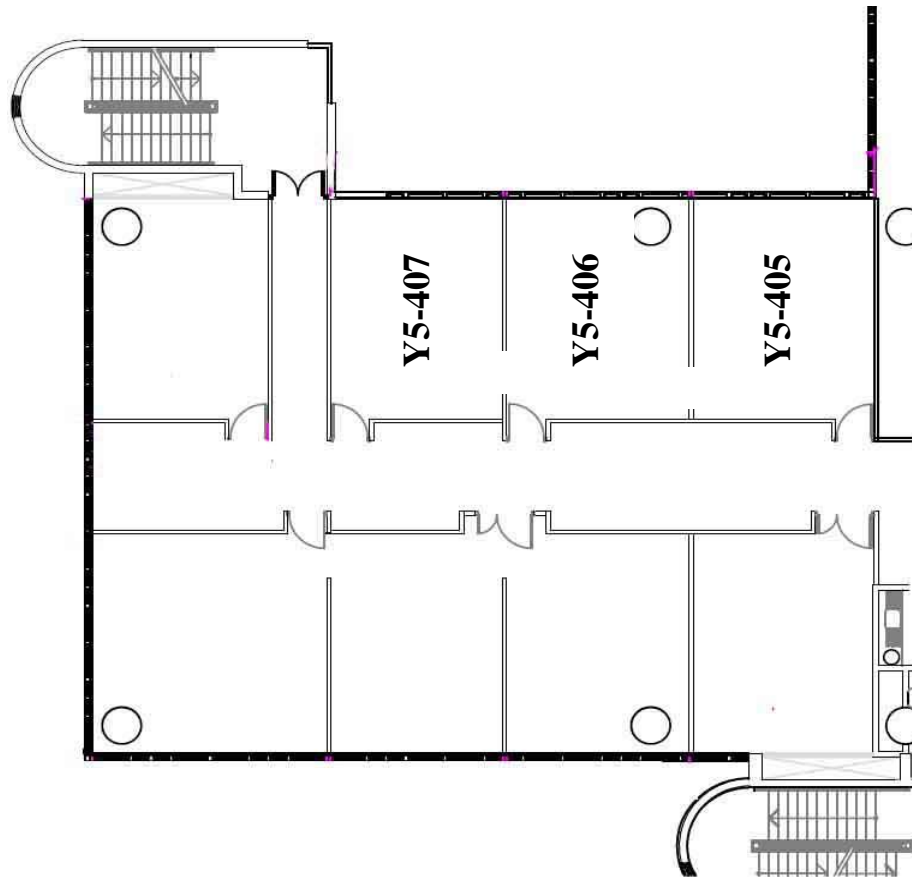


Mechanical Engineering (MNE) Laboratories on 5/F YEUNG



Appendix II-b

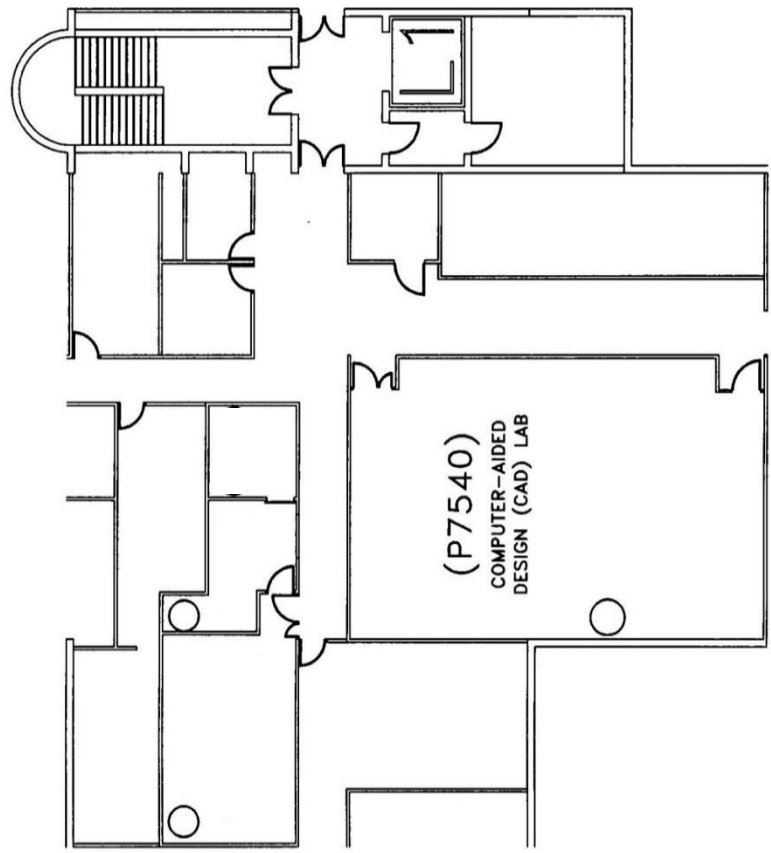
**Rm. Y5101
Thermal-fluids Laboratory**



**Rm. Y5405/Y5406/Y5407
Mechanics and Tribology Laboratory**

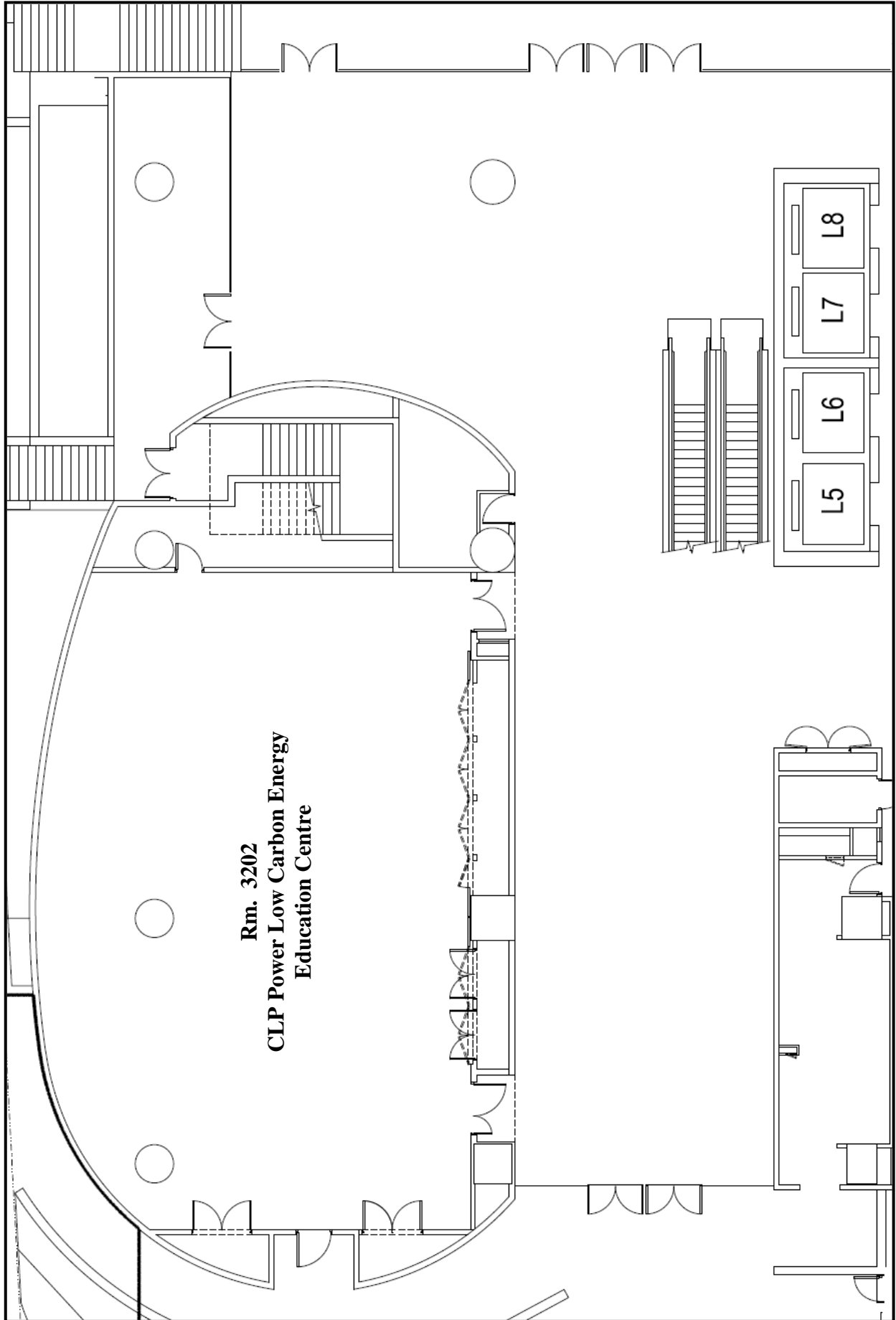
Mechanical Engineering (MNE) Laboratories on 7/F YEUNG

7/F, LIFT 1, PURPLE ZONE,
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ACADEMIC BUILDING

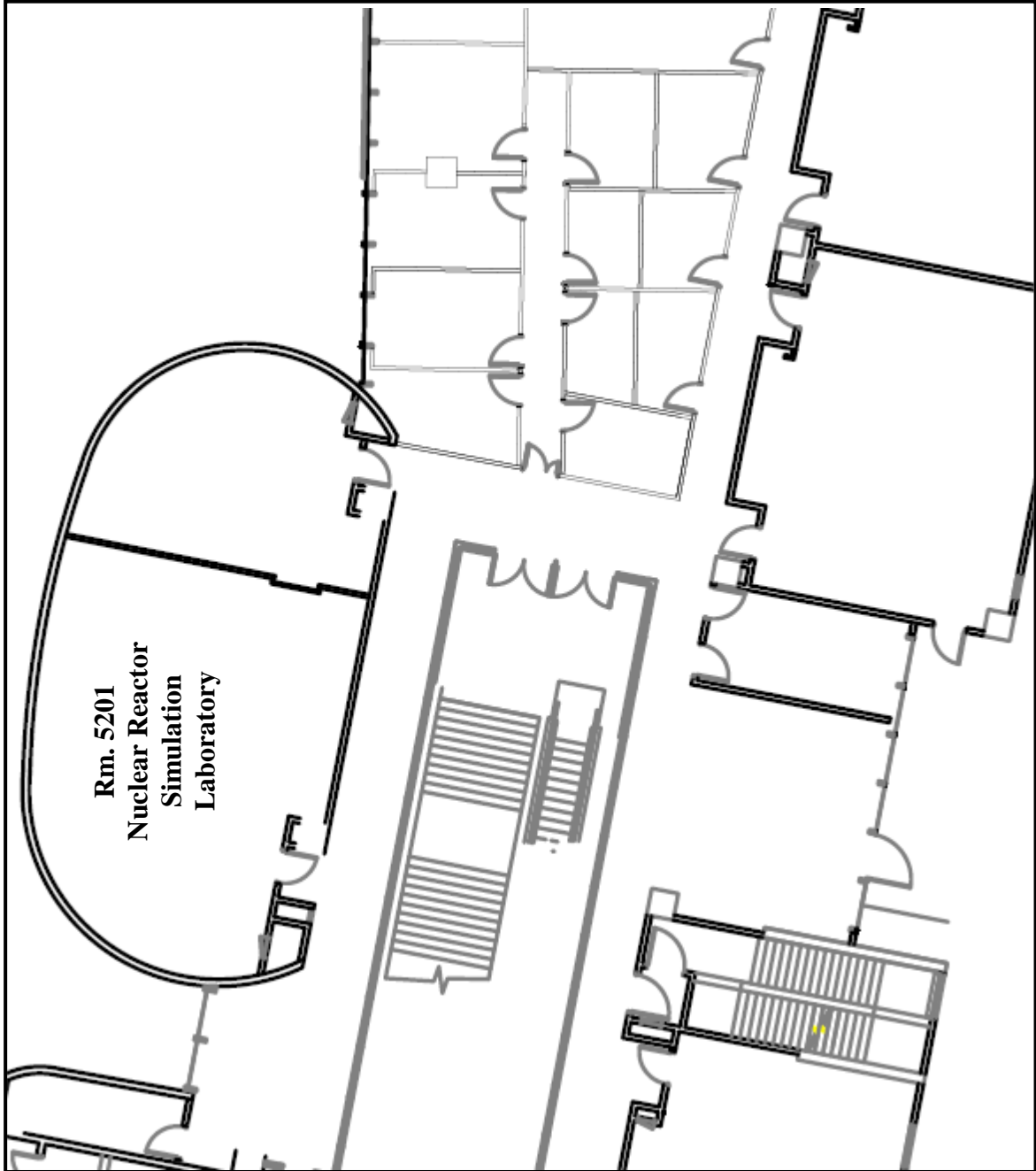


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DATE	03-JUL-2018		
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Mechanical Engineering (MNE) Laboratories on 3/F LAU



Mechanical Engineering (MNE) Laboratories on 5/F LAU



Mechanical Engineering (MNE) Laboratories on 6/F LI

