

**City University of Hong Kong
Course Syllabus**

**offered by
Department of Mechanical Engineering
with effect from Semester A 2024 / 2025**

Part I Course Overview

Course Title:	<u>Advanced Research Topics</u>
Course Code:	<u>MNE8010</u>
Course Duration:	<u>Normally to be taken during Year 2-3 of full-time PhD candidature</u>
Credit Units:	<u>3 (1 CU per semester for 3 semesters of PhD candidature)</u>
Level:	<u>R8</u>
Medium of Instruction:	<u>English</u>
Medium of Assessment:	<u>English</u>
Prerequisites: <i>(Course Code and Title)</i>	<u>MNE8009 Research Methodology</u>
Precursors: <i>(Course Code and Title)</i>	<u>Nil</u>
Equivalent Courses: <i>(Course Code and Title)</i>	<u>Nil</u>
Exclusive Courses: <i>(Course Code and Title)</i>	<u>Nil</u>

Part II Course Details

1. Abstract

This course aims to provide PhD students with formal forums to -

- further broaden their research knowledge and expertise;
- learn about the recent advancement in mechanical, electro-mechanical and biomedical engineering research and methodologies
- present their research findings and discuss their learning experiences with their peers and academic staff;
- further strengthen their research mindset and scholarship and the research culture in the department.

These formal forums are in the form of regular Research Seminars which offer a cooperative learning environment in which PhD students from different cohorts and research themes can mix, interact, challenge and support each other during the very important formative years of their doctoral candidature.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	broaden their knowledge and expertise beyond their PhD research topic		✓		
2.	extend their understanding of the latest trends and important developments in mechanical, electro-mechanical, and/or biomedical engineering research and methodologies		✓	✓	
3.	communicate with fellow peers regarding their own or others' research findings and experience scholarly and logically			✓	✓
		100%			

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Learning and Teaching Activities (LTAs)

(LTAs designed to facilitate students' achievement of the CILOs.)

LTA	Brief Description	CILO No.			Hours/week (if applicable)
		1	2	3	
Attending Research Seminars and Technical Workshops	Each full-time PhD student is required to attend at least 15 of these research or technical seminars during their year 2 and 3 of their PhD candidature i.e. for full-time PhD students, nominally 5 seminars per semester for 3 semesters. (Part-time PhD students may be permitted to take up to three years of PhD candidature to fulfill this requirement.) Apart from the MNE research seminars, PhD students can also attend other officially sanctioned research or technical seminars held at CityU or other universities/professional institutions like HKIE, IIE, IEE, and IEEE. Participation in a relevant full-day technical workshop is equivalent to the attendance of 3 research seminars.	✓	✓		
Write-ups and reflections	Each PhD student has to present at least once (possibly with other teammates) the research progress or results to peers and faculty in class to meet the course requirements.		✓	✓	
Portfolio	Each student is required to submit a portfolio of brief write-ups and reflections of the research seminars attended and presented.	✓	✓		

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.			Weighting	Remarks
	1	2	3		
Continuous Assessment:	✓	✓	✓	100%	
Examination: 0%				100%	

- The portfolio is a collection of critiques and reflections of the research seminars attended and presented.
- The assessment of the portfolio could include the student's qualifying panel's evaluation of the candidate's research seminar presentations.

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Assessment Task	Criterion	Pass (P)	Failure (F)
Write-ups and reflections	Each PhD student has to present at least once each semester the research progress or results to peers and faculty in class to meet the course requirements. Inclusion of the relevant elements related to the research work being undertaken, quality of the report, and clarity in presenting the progress or results of the research study to peers and faculty in class.	Strong evidence of critical thinking through personal presentation, meetings with peers and faculty and the ability of self-learning for the development of their thesis proposals.	Little evidence of critical thinking and inability of development of their thesis proposals through literature review and self-learning.
Portfolio	Quality of the submitted portfolio of brief write-ups and reflections of the research seminars attended and presented.	Strong evidence for presenting the research work through write-ups with good clarity and self-consistency	Little evidence for presenting the research work through write-ups or these presentations lack good clarity and self-consistency

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

Research design, research methodology, research progress, seminar attendance and presentation.

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

N.A.

2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)

The Presentation Secrets of Steve Jobs: How to Be Insanely Great in Front of Any Audience, Carmine Gallo, 2009.

Talk Like TED: The 9 Public-Speaking Secrets of the World's Top Minds, Carmine Gallo, 2014.

Online Resources

Online learning material is provided via University computer network.