

MNE8010: ADVANCED RESEARCH TOPICS

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Advanced Research Topics

Subject Code

MNE - Mechanical Engineering

Course Number

8010

Academic Unit

Mechanical Engineering (MNE)

College/School

College of Engineering (EG)

Course Duration

Non-standard Duration

Other Course Duration

Normally to be taken during Year 2-3 of full-time PhD candidature

Credit Units

0-3

Level

R8 - Research Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

MNE8009 Research Methodology

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details

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.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 DEC-A2 DEC-A3 app.)			
1	broaden their knowledge and expertise beyond their PhD research topic		x		
2	extend their understanding of the latest trends and important developments in mechanical, electro-mechanical, and/or biomedical engineering research and methodologies		x	x	
3	communicate with fellow peers regarding their own or others' research findings and experience scholarly and logically			x	x

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.

Learning and Teaching Activities (LTAs)

LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	<p>Attending Research Seminars and Technical Workshops</p>	<p>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.</p>	1, 2
2	Write-ups and reflections	<p>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.</p>	2, 3
3	Portfolio	<p>Each student is required to submit a portfolio of brief write-ups and reflections of the research seminars attended and presented.</p>	1, 2

Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Continuous Assessment	1, 2, 3	100	-

Continuous Assessment (%)

Examination (%)

0

Minimum Continuous Assessment Passing Requirement (%)

0

Minimum Examination Passing Requirement (%)

0

Additional Information for ATs

- 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.

Assessment Rubrics (AR)

Assessment Task

Write-ups and reflections

Criterion

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.

Pass (P)

(P) 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.

Failure (F)

(F) Little evidence of critical thinking and inability of development of their thesis proposals through literature review and self-learning.

Assessment Task

Portfolio

Criterion

Quality of the submitted portfolio of brief write-ups and reflections of the research seminars attended and presented.

Pass (P)

(P) Strong evidence for presenting the research work through write-ups with good clarity and self-consistency

Failure (F)

(F) Little evidence for presenting the research work through write-ups or these presentations lack good clarity and self-consistency

Part III Other Information

Keyword Syllabus

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

Reading List

Compulsory Readings

Title	
1	N.A.

Additional Readings

Title	
1	The Presentation Secrets of Steve Jobs: How to Be Insanely Great in Front of Any Audience, Carmine Gallo, 2009
2	Talk Like TED: The 9 Public-Speaking Secrets of the World's Top Minds, Carmine Gallo, 2014
3	Online Resources Online learning material is provided via University computer network.