

SYE8210: ADVANCED RESEARCH TOPICS

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Advanced Research Topics

Subject Code

SYE - Systems Engineering

Course Number

8210

Academic Unit

Systems Engineering (SYE)

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

0-2

Level

R8 - Research Degree

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

SEEM8009 Research Methodology (offered until 2021/22)/ ADSE8009 Research Methodology (offered until 2023/24) / SYE8009 Research Methodology

Precursors

Nil

Equivalent Courses

SEEM8210 Advanced Research Topics (offered until 2021/22)
ADSE8210 Advanced Research Topics (offered until 2023/24)

Exclusive Courses

Nil

Part II Course Details

Abstract

- further broaden their research knowledge and expertise; so as the skills on literature search
- learn about the recent advancement in advanced design and systems engineering related research and methodologies
- present their research findings and discuss their learning experiences with their peers and academic staff
- further strengthen their research mind set 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 app.)	DEC-A1	DEC-A2	DEC-A3
1	Broaden their knowledge on literature search and expertise beyond their PhD research topic	20	x		
2	Extend their understanding of the latest trends and important developments in advanced design and systems engineering related research and methodologies	30		x	
3	Communicate with fellow peers regarding their own or others' research findings and experience scholarly and logically	50		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	Seminar	Seminar/presentation by fellow students and department visitors.	1, 2	
2	Presentation	Students giving presentation with question answer session.	1, 3	

Additional Information for LTAs

Regular weekly research seminars will be organized by the SYE Department during the semester.

Each full-time PhD student is required to attend at least 20 of these research or technical seminars during their year 2 and 3 of their PhD candidature i.e. for full-time PhD students, nominally 10-12 seminars per semester for 2 semesters. (Part-time PhD students may be permitted to take up to three years of PhD candidature to fulfill this requirement.)

Apart from the department research seminars, PhD students can also attend other officially sanctioned research or technical seminars held at CityU or other universities/professional institutions like HKIE, IISE, and IEEE. Participation in a relevant full-day technical workshop is equivalent to the attendance of 4 research seminars.

In addition, each PhD student has to present at least twice the research progress or results to peers and faculty in these formal research seminars to meet the course requirements. Each student is required to submit a portfolio of brief write-ups and reflections of the research seminars attended and presented.

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks ("- " for nil entry)	Allow Use of GenAI?
1	Coursework Each student is required to submit a portfolio with at least two pages as brief write-ups and reflections of the research seminars attended and presented.	1, 2, 3	100	-	No

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)

Assessment Task

Coursework (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

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

Pass (P)

(P) Pass

Failure (F)

(F) Fail

Assessment Task

Coursework (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

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

Pass (P)

(P) Pass

Failure (F)

(F) Fail

Additional Information for AR

- 100% coursework. Pass or Fail.

Part III Other Information

Keyword Syllabus

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

Reading List

Compulsory Readings

Title	
1	Paul Leedy and Jeanne Ormrod, Practical Research (12th edition), Merrill Prentice Hall, 2019
2	Rowena Murray, How to Write a Thesis, 4th ed, Open U Press, 2017

Additional Readings

Title	
1	NIL