BME8010: ADVANCED RESEARCH TOPICS

Effective Term
Semester B 2024/25

Part I Course Overview

Course Title
Advanced Research Topics

Subject Code
BME - Biomedical Engineering
Course Number
8010

Academic Unit
Biomedical Engineering (BME)

College/School
College of Biomedicine (BD)

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
MBE8009/BME8009 Research Methodology

Precursors
Nil

Equivalent Courses
MBE8010 Advanced Research Topics

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 app.)	DEC-A1	DEC-A2	DEC-A3
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	Research Seminars	Regular weekly research seminars will be organized by the BME Department during the semester.	1, 3	

2	Full-day technical workshops	Each full-time PhD student is required to attend at least 18 of these research or technical seminars during their year 2 and 3 of their PhD candidature i.e. for full-time PhD students, nominally 6 seminars per semester for 3 semesters. (Part-time PhD students may be permitted to take up to three years of PhD candidature to fulfil this requirement.) Apart from the BME 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.	1, 2	
3	Write-ups and reflections	Each PhD student has to present at least once the research progress or results to peers and faculty in class to meet the course requirements.	2, 3	
4	Portfolio	Each student is required to submit a portfolio of brief write-ups and reflections of the research seminars attended and presented.	1, 2	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Continuous Assessment	1, 2, 3	100	

Continuous Assessment (%)

100

Examination (%)

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

Criterion
Each PhD student has to present at least once 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.

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

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

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

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal
(D) Basic

Failure
(F) Not even reaching marginal levels

Assessment Task
Write-ups and reflections (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Each PhD student has to present at least once 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.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

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

Criterion

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

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

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

Reading List

Compulsory Readings

	Title
1	Nil

Additional Readings

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