City University of Hong Kong
Course Syllabus

offered by
Department of Mechanical Engineering
with effect from Semester A 2024 / 25

Part I Course Overview

Course Title:	Research and Development Case Study
Course Code:	MNE8007M
Course Duration:	One Semester
Credit Units:	3
Level:	R8
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Nil
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	MNE8007 Research and Development Case Study
Exclusive Courses: *(Course Code and Title)*	MNE8001 Comprehensive Studies

Part II Course Details

1. Abstract

The aim of the course is to develop the student's ability to carry out R&D study in chosen subject area related to mechatronics and automation systems. It will enable students to establish a Research & Development (R & D) proposal to meet defined requirements.

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.	**Understand** the scope and nature of a research and development work, and the process of investigation;		√	√	
2.	**Establish** a research and development proposal based on the selected engineering topic;			√	√
3.	**Develop** professional skills of formulating a project work.			√	√
		N.A.			

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	
Class Activities	Seminars and lectures; workshop.	√	√	√	9 hours
Small Group / individual Activities *	Group projects; group discussions; individual proposal development		√	√	30 hours

*Depending on the number of students participating in the course

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%	

5. Assessment Rubrics

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

Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Large Class Activities	Develop a project proposal that includes the definition of the problem and main outcomes that may be accomplished.	High	Significant	Moderate	Basic	Not even reaching marginal levels
Small Group Activities	Evidence of good literature review to develop a methodology towards accomplishing the stated project objectives, project execution and the results obtainable, along with related discussion.	High	Significant	Moderate	Basic	Not even reaching marginal levels
Presentation	Summarize the critical aspects of the project, propose a suitable methodology that may be adopted to accomplish the stated objective(s) and likely results in a concise manner during the presentation.	High	Significant	Moderate	Basic	Not even reaching marginal levels

Applicable to students admitted from Semester A 2022/23 to Summer Term 2024

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
Large Class Activities	Develop a project proposal that includes the definition of the problem and main outcomes that may be accomplished.	High	Significant	Moderate	Not even reaching marginal levels
Small Group Activities	Evidence of good literature review to develop a methodology towards accomplishing the stated project objectives, project execution and the results obtainable, along with related discussion.	High	Significant	Moderate	Not even reaching marginal levels
Presentation	Summarize the critical aspects of the project, propose a suitable methodology that may be adopted to accomplish the stated objective(s) and likely results in a concise manner during the presentation.	High	Significant	Moderate	Not even reaching marginal levels

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.)

R&D development, professional skill, strategy, seminars and technical talks, Mechatronics, Automations, Robotics, Controls.

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 students need to read technical papers and/or books based on respective project study.