

SYE8104P: DOCTORAL THESIS

New Syllabus Proposal

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Doctoral Thesis

Subject Code

SYE - Systems Engineering

Course Number

8104P

Academic Unit

Systems Engineering (SYE)

College/School

College of Engineering (EG)

Course Duration

Non-standard Duration

Other Course Duration

Nominally 2-5 years upon the completion of SYE8025P Research Methods in Engineering Management

Credit Units

0-45

Level

D8 - Professional Doctorate

Medium of Instruction

Other Languages

Other Languages for Medium of Instruction

Chinese, supplemented by English

Medium of Assessment

Other Languages

Other Languages for Medium of Assessment

Chinese, supplemented by English

Prerequisites

SYE8025P Research Methods in Engineering Management

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

Nil

Part II Course Details**Abstract**

The Doctoral Thesis offers students a challenging and enriching opportunity to propose, formulate and carry out an independent research topic or development project of his/her choice. It is essentially an integrative and capstone course that requires students to incorporate strategic and managerial thinking in the development and implementation of innovative industrial projects or engineering management solutions. The Doctoral Thesis will help to hone the perception of students with regard to the strategic implication and value of new technology and knowledge in the chosen field of study; develop their ability to adopt and manage this new technology and knowledge to solve industrial or engineering management problems. A Doctoral Thesis is expected to be innovative as well as theoretically rigorous.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Define scholarly the nature, aim, scope and significance of a selected industrial or engineering management topic and develop it into an EngD thesis of substantial academic depth and vigour for professional doctorate degree.		x	x	
2	Review and critique the body of knowledge and literature relevant to the topic or theme of the EngD thesis to lay the necessary theoretical and conceptual foundation.		x	x	
3	Develop and apply, innovatively and methodically such theory or knowledge to carry out the research work leading to the completion of the EngD thesis.		x	x	x
4	Communicate and defend the EngD thesis - its research methodology, results and findings scholarly and logically, using written, oral and visual media.		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	Lectures	Each student shall define, under the supervision of a EngD thesis supervisor, the nature, aim, scope and importance of a project relevant to engineering management.	1	6 hours/semester
2	Individual Assignment	Each student shall research, review and critique the appropriate body of knowledge and background information needed to achieve the defined EngD thesis objective(s), and shall base and build on the knowledge, theory or practice learned from literature to develop the appropriate EngD thesis research methodology. Implement the research methodology to the chosen engineering management problem or project.	2, 3	27 hours/semester
3	Group Activities	Participate and present interim progress in the periodic EngD Seminars. Document the research process, results and findings scholarly and logically in the form of EngD thesis according to the required format. Present and defend the EngD thesis to a properly constituted EngD Thesis examination panel according to CityU academic regulations.	4	6 hours/semester

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Coursework (Thesis)	1, 2, 3, 4	100	-	No

Continuous Assessment (%)

100

Minimum Continuous Assessment Passing Requirement (%)

30

Assessment Rubrics (AR)**Assessment Task**

Coursework (Thesis) (for students admitted in Semester A 2025/26 & thereafter)

Criterion

The EngD thesis requires defining a focused industrial/engineering management topic with scholarly depth, critically reviewing relevant literature to establish theoretical foundations, innovatively applying research methodologies to generate original insights, and effectively communicating findings through rigorous written, oral, and visual defense.

Pass (P)

(A+, A, A-, B+, B, B-, C+, C, C-, D)

Failure (F)

(F)

Additional Information for AR

Applicable to students admitted in Semester A 2025/26 & thereafter

100% Coursework. Pass or Fail

The course is assessed through 100% coursework (Thesis). The examination procedure for EngD Thesis comes under the School of Graduate Studies' regulations for research degrees and professional doctorates. Dissertation-type courses may NOT be repeated.

Part III Other Information**Keyword Syllabus**

Doctoral thesis, research methodology, independent research, innovative application of theory and techniques, engineering management

Reading List**Compulsory Readings**

Title	
1	Rowena Murray, How to Write a Thesis, Open U Press, 2002
2	David Madsen, Successful EngD thesiss and Thesis, Jossey-Bass, 1992
3	Wayne C Booth et al, The Craft of Research, Publ. Chicago U Press, 1995

Additional Readings

Title	
1	Nil