

# SYE6045: INDUSTRIAL CASE STUDY

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## Effective Term

Semester A 2025/26

## Part I Course Overview

### Course Title

Industrial Case Study

### Subject Code

SYE - Systems Engineering

### Course Number

6045

### Academic Unit

Systems Engineering (SYE)

### College/School

College of Engineering (EG)

### Course Duration

One Semester

### Credit Units

3

### Level

P5, P6 - Postgraduate Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil (Special approval by the SYE6045 Course Examiner is required)

### Precursors

Nil

### Equivalent Courses

SEEM6045 Industrial Case Study (offered until 2021/22) / ADSE6045 Industrial Case Study (offered until 2023/24)

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

The course aims to expose students to mainstream research and/or investigation methods for tackling practical engineering projects, engineering management problems or technological entrepreneurship projects in the real-life environment and developing feasible solutions for these specific problems.

### Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 DEC-A2 DEC-A3 app.)			
1	Define the problem(s) and conduct analysis of causes	10	x		x
2	Distinguish various research methodologies and select the appropriate method(s) for the problem(s) at hand	20		x	
3	Define the scope and the nature of project work	20		x	x
4	Formulate project proposals and implement the plan within a specific time span	40		x	x
5	Monitor project progress, report project outcomes and evaluate project success	10			

#### 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	Students visit the company sponsoring the project and discuss with industrial supervisor(s) and academic supervisors to learn about the problem and its context. Literature research should be conducted simultaneously to identify similar problems and alternative solutions.	Establishing the individual / company context of the proposed study.	1

2	Students will identify relevant methodologies for solving the problems and list the merits of each of them. Students report to academic supervisor and industrial supervisor and justify their choice.	Development of methodology through selected literature study and under the guidance of supervision.	2	
3	Students will start an industrial attachment at the industrial supervisor' s company (i.e., sponsor) and implement their proposal.	Implementation of the methodology in selected industrial/ company setting under the guidance of company sponsor and CityU academic supervision.	3, 4	
4	Students will prepare a written individual report which summarizes their findings and conduct an oral presentation at the end of the industrial attachment.	Written report and oral presentation of completed industrial case study.	5	

#### Additional Information for LTAs

Students are required to undertake an individually or group supervised project, which includes formulating a project proposal, defining deliverables, making recommendations, implementing solutions and reporting final results. There are no formal class activities such as regular lectures or tutorials. Consultation sessions with academic supervisors will be scheduled based on each student' s individual progress.

#### Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("- for nil entry)	Allow Use of GenAI?
1	To be registered in this course, a preliminary proposal should be prepared and approved by the industrial supervisor' s and course leader. The proposal will not be graded.	1, 2, 3	0	-	No
2	Feedback report from the Industrial Supervisor and other supervisory staff at the sponsor' s company or organization.	4	50	-	No
3	Final report and presentation.	5	50	-	No

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Minimum Continuous Assessment Passing Requirement (%)**

30

**Assessment Rubrics (AR)**

**Assessment Task**

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

**Criterion**

Students must work closely with supervisor to develop and implement the industrial case project

**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

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**Assessment Task**

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

**Criterion**

Students must work closely with supervisor to develop and implement the industrial case project

**Excellent**

(A+, A, A-) High

**Good**

(B+, B) Significant

**Marginal**

(B-, C+, C) Moderate/Basic

**Failure**

(F) Not even reaching marginal levels

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**Additional Information for AR**

There will be no final examination in this course. A process of continuous assessment, including company visits by academic supervisors, feedback provided by industrial supervisor and other supervisory staff, periodic reports of project progress, final reports and oral presentation of findings - will be used to monitor and evaluate each student's learning outcome.

## Part III Other Information

### Keyword Syllabus

Case study, problem identification, research method, data collection, data analysis, solution development, implementation

### Reading List

#### Compulsory Readings

Title	
1	There are no textbooks for this course. Reading assignments will be provided by the academic supervisor and the industrial supervisor of each project.

#### Additional Readings

Title	
1	NIL