**City University of Hong Kong**
**Course Syllabus**

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

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## Part I Course Overview

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|---|---|
| **Course Title:** | Industrial Case Study |
| **Course Code**: | SYE6045 |
| **Course Duration:** | One Semester |
| **Credit Units**: | 3 |
| **Level**: | P6 |
| **Medium of Instruction:** | English |
| **Medium of Assessment:** | English |
| **Prerequisites**: *(Course Code and Title)* | Nil **(Special approval by the SYE6045 Course Examiner is required)** |
| **Precursors**: *(Course Code and Title)* | Nil |
| **Equivalent Courses**: *(Course Code and Title)* | SEEM6045 Industrial Case Study (offered until 2021/22)<br>ADSE6045 Industrial Case Study (offered until 2023/24) |
| **Exclusive Courses**: *(Course Code and Title)* | Nil |

**Part II Course Details**

**1. 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.

**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. | **Define** the problem(s) and **conduct analysis** of causes | 10% | ✓ | | ✓ |
| 2. | **Distinguish** various research methodologies and **select** the appropriate method(s) for the problem(s) at hand | 20% | | ✓ | |
| 3. | **Define** the scope and the nature of project work | 20% | | ✓ | ✓ |
| 4. | **Formulate** project proposals and **implement** the plan within a specific time span | 40% | | ✓ | ✓ |
| 5. | **Monitor** project progress, **report** project outcomes and **evaluate** project success | 10% | | | |
| | | 100% | | | |

*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 | 4 | **5** | |
| 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. | ✓ | | | | | |
| 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. | | ✓ | | | | |
| 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. | | | ✓ | ✓ | | |
| 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. | | | | | ✓ | |

Student 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.

**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 | 4 | 5 | | |
| Continuous Assessment: 100 % | | | | | | | |
| 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. | ✓ | ✓ | ✓ | | | 0% | |
| Feedback report from the Industrial Supervisor and other supervisory staff at the sponsor's company or organization. | | | | ✓ | | 50% | |
| Final report and presentation. | | | | | ✓ | 50% | |
| Examination: 0 % (duration: , if applicable) | | | | | | | |
| | | | | | | 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) |
|---|---|---|---|---|---|---|
| 1. Continuous Assessment | Students must work closely with supervisor to develop and implement the industrial case project | High | Significant | Moderate | Basic | Not even reaching marginal levels |

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.

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) |
|---|---|---|---|---|---|
| 1. Continuous Assessment | Students must work closely with supervisor to develop and implement the industrial case project | High | Significant | Moderate/Basic | Not even reaching marginal levels |

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** (more details can be provided separately in the teaching plan)

**1. Keyword Syllabus**

*(An indication of the key topics of the course.)*

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

**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.)*

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

**2.2 Additional Readings**

*(Additional references for students to learn to expand their knowledge about the subject.)*

*NIL*