The Hong Kong Polytechnic University

Subject Description Form

Subject Code	CSE49499
Subject Title	Design Project for Safety Engineers
Credit Value	3
Level	4
Pre-requisite / Co-requisite/ Exclusion	CSE39399 Introduction to Construction Technology and Management CSE376 Safety Technology CSE40483 System Safety Engineering
Objectives	This subject aims to enable the students to develop the first-hand practical safety design experience before graduation.
Intended Learning Outcomes *(Note 1)*	Upon completion of the subject, students will be able to: a. utilize the techniques, skills, and modern engineering tools necessary to undertake a design of solutions for an engineering problem within constraints under the guidance of industrial and academic supervisors; b. an ability to identify, formulate and solve safety engineering problems; c. communicate logically and lucidly through drawing, calculation, and in writing; d. present ideas and arguments verbally in formal presentations and informal discussions, and negotiate informally with peers; e. function effectively in multi-disciplinary teams and take responsibility for an agreed area of a shared activity; f. recognize the need for, and to engage in life-long learning.
Subject Synopsis/ Indicative Syllabus *(Note 2)*	Students will be required to participate in the formulation of a conceptual solution to a safety engineering problem, appraisal of the feasible schemes and then carry out the design of the selected scheme. For example, the design of engineering controls for high-risk work activities.
Teaching/Learning Methodology *(Note 3)*	The project will last for one semester. In general, students will work in group and are expected to have regular group discussions and meetings with their supervisors. Project briefing, lectures, and presentations of the projects will also be arranged. The project includes the following components: • design appraisal of distinct and viable schemes with

appropriate sketches / drawings and calculations;
- scheme selection with justifications;
- preparation of design calculations to establish the size and form of typical and critical engineering elements including the foundation for the selected scheme;
- preparation of general arrangement drawings / design framing including sufficient plans, and critical engineering design details for estimating purposes; and
- compilation of design reports.

Supervision

Students are supervised by both academic staff and visiting lecturers. The visiting lecturers are experienced practicing engineers and will contribute to formulate real-life construction projects that are based on real engineering problems and bring in up-to-date practical engineering knowledge.

Assessment Methods in Alignment with Intended Learning Outcomes

(Note 4)

Specific assessment methods/tasks	% Weighting	Intended subject learning outcomes to be assessed					
		a	b	c	d	e	f
1. Project Presentation	50	√	√		√	√	√
2. Project Report	50	√	√	√		√	√
Total	100						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

In this subject, students will work in a group and will have regular group discussions and meetings with their supervisors.
Assessments methods include:
1. Project Presentation which comprises of
- Consultation meetings (30%)
- Interim presentation (10%)
- Final presentation (10%)
2. Project Report which comprises of
- Seminar report and interim report (20%)
- Final report (30%)

For the above, 30% reflects the group effort and 70% reflects individual effort respectively.

Students must pass both the project presentation and project Report, and achieve a passing overall score/ grade to pass the subject

<table>
<tr><td>Student Study Effort Required</td><td><table>
<tr><td>Class contact</td><td>Average hours per week</td></tr>
<tr><td>▪ Consultation/ Group meetings</td><td>2.6 Hrs.</td></tr>
<tr><td>▪ Project presentation and feedback</td><td>0.4 Hrs.</td></tr>
<tr><td>Other student study effort:</td><td></td></tr>
<tr><td>▪ Self-study and Project Works</td><td>6 Hrs.</td></tr>
<tr><td>Total student study effort</td><td>9 Hrs.</td></tr>
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<tr><td>Reading List and References</td><td>To be provided by the project supervisors.</td></tr>
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Note 1: Intended Learning Outcomes
Intended learning outcomes should state what students should be able to do or attain upon subject completion. Subject outcomes are expected to contribute to the attainment of the overall programme outcomes.

Note 2: Subject Synopsis/Indicative Syllabus
The syllabus should adequately address the intended learning outcomes. At the same time, overcrowding of the syllabus should be avoided.

Note 3: Teaching/Learning Methodology
This section should include a brief description of the teaching and learning methods to be employed to facilitate learning, and a justification of how the methods are aligned with the intended learning outcomes of the subject.

Note 4: Assessment Method
This section should include the assessment method(s) to be used and its relative weighting, and indicate which of the subject intended learning outcomes that each method is intended to assess. It should also provide a brief explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes.