Subject Description Form

Subject Code	CSE48404
Subject Title	Design Project for Civil Engineers
Credit Value	4
Level	4
Pre-requisites / Exclusion	Pre-requisites: All CSE core subjects at 300-399 or 30000-39999 level Exclusion: CSE404 Design Project, CSE49404 Design Project
Exclusion	CSE404 Design Project
Objectives	To enable the students to develop the first hand practical design experience before graduation.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: 1. apply the fundamentals of applied science, mathematics, and statistical methods to formulate effective solutions across a wide range of civil engineering domains; 2. identify, structure and analyze diverse problems arising from the changing constraints that influence engineering projects, such as economic, environmental, legal, social, health and safety, sustainability, and technological considerations; 3. develop and function effectively in multi-disciplinary teams; 4. to synthesize logical solutions to civil engineering problems independently with a creative and imaginative mind; 5. to work professionally and ethically; 6. communicate logically and lucidly through drawing, calculation, and in writing; 7. acquire broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context; 8. utilize the techniques, skills, and modern engineering tools necessary for engineering practice to meet desired needs within realistic constraints; 9. cope with challenges and developments of the profession, including the increasing application of information technology in practice. 10. to recognize the need for, and to engage in life-long learning. The above-mentioned are written in line with the outcomes of the degree programme.
Subject Synopsis/ Indicative Syllabus	Students will be required to participate in the formulation of conceptual solutions to a large scale civil engineering problem, appraisal of the feasible schemes and then recommend the selected scheme with rationale and justification. For

<table>
<tr><td></td><td>example, a link is required to connect two places within an area where ground conditions and difficulties of access are apparent. Students may be required to examine the feasibility of various proposed elevated road crossing schemes and explain with acceptable reasons for the finally chosen scheme. Students would also consider the construction techniques, the scheduling and management of the construction phase of the project and costs.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>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 structural elements including the foundation for the selected scheme and
- preparation of general arrangement drawings / structural framing including sufficient plans, elevations, sections and typical and critical structural details for estimating purposes.
- compilation of design reports

<u>Supervision</u>

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.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="10">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
<tr><td>#1. Project Presentation</td><td>50</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td></td></tr>
<tr><td>##2. Project Report</td><td>50</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td><td>√</td></tr>
<tr><td>Total</td><td>100%</td><td colspan="10"></td></tr>
</table>

Notes:
#Project Presentation:
consultation meetings, presentation for schematic design and presentation for preliminary design.
Project Report:
seminar report, report on schematic design and report on preliminary design.
</td></tr>
</table>

Student Study Effort Expected	Class contact:	Average hours per week
	▪ Consultation Meetings	2.7 Hrs.
	▪ Project Presentation and Feedback	0.3 Hrs.
	Other student study effort:	
	▪ Self Study and Project Works	9 Hrs.
	Total student study effort	12 Hrs.
Reading List and References	To be provided by the project supervisors.	