

## Subject Description Form

<b>Subject Code</b>	CSE1001
<b>Subject Title</b>	Introduction to Civil Engineering and Sustainable Development
<b>Credit Value</b>	1
<b>Level</b>	1
<b>Pre-requisite/ Co-requisite/ Exclusion</b>	Nil
<b>Objectives</b>	<p>This subject is specially devised for all the first-year students of the 4-year undergraduate degree programme(s) offered by the Department of Civil and Environmental Engineering. Its objectives are to:</p> <ul style="list-style-type: none"><li>• enthuse the students about their major study and the multi-disciplinary nature of study in the Faculty of Construction and Environment;</li><li>• introduce students to the basics of structural engineering, fire engineering, geotechnical engineering, transportation engineering, hydraulic engineering and environmental engineering, within the context of the civil and environmental engineering discipline, in a manner that allows students to appreciate the roles of the above engineering disciplines in sustainable urban and infrastructure development;</li><li>• engage students, in their first year of study, in desirable forms of learning at university that emphasizes self-regulation, autonomous learning, deep understanding and academic integrity.</li></ul>
<b>Intended Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"><li>(a) acquire broad education on construction and environment and know its importance in societal and economic development;</li><li>(b) achieve an introductory understanding of structural, fire, geotechnical, transportation, hydraulic and environmental engineering professionals and identify their key technical components;</li><li>(c) explain the importance of PolyU's professionals in the construction industry;</li><li>(d) recognize the need for lifelong learning and demonstrate learning-to-learn capacity;</li></ol>

	(e) adopt desirable forms of learning for the university study and aware of academic integrity and plagiarism.
<b>Subject Synopsis/ Indicative Syllabus</b>	<p><b><u>Subject Synopsis</u></b></p> <p>CEE is a leading department in civil and environmental engineering in the world and is widely recognized for its research excellence, high quality education as well as the power of synergy achieved by a pool of renowned scholars and professional faculty members in the field. CEE not only offers broad-based and high quality interdisciplinary education in the areas of structural, fire, geotechnical, hydraulic, transportation and environmental engineering but also an advanced practical training in occupational health and safety, fostering students to become competent engineers and professionals. In this subject, the broad spectrum of civil engineering and sustainable development will be introduced in terms of the existing technologies and latest thoughts and developments.</p> <p>The importance of the overall construction and environment industry and its professionals in enhancing the living quality of mankind will be emphasized.</p> <p>Reputable industrial practitioners and alumni will be invited to give seminars to students to share their experiences in the workplace and solving problems on technical, financial and other issues in the construction industry.</p> <p>Site visits that cover a broad spectrum of construction and environment discipline will be organized, either physically or virtually, for the students to achieve a better understanding on the related technologies and the knowledge covered in the subject and how they have been applied in practice.</p>
<b>Teaching/Learning Methodology</b>	<p>The teaching and learning methodology involves inspirational lectures, practitioners'/alumni' seminars, site visits and project report. A blended approach involving face to face teaching and online companion learning tools will be employed to facilitate an easy access to teaching and learning materials and teacher-student and student-student interactions in class and out of class.</p> <p>The knowledge gained from the inspirational lectures and other activities in the early stage of the curriculum constitutes a part of the foundation for students in the discipline. Practitioners'/alumni' seminars are purposefully arranged to introduce students how the knowledge is applied in practice, the gap between theory and practice in the construction industry. Site visits allow students to appreciate the real-life multi-disciplinary nature of civil infrastructural/construction projects.</p>

<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
			a	b	c	d	e
	1. Group report	100%	✓	✓	✓	✓	✓
	Total	100 %					
<p><b>Students must attain at least grade D in both coursework and final examination (whenever applicable) in order to attain a passing grade in the overall result.</b></p> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>The project report which is submitted to Turnitin for plagiarism check serves as an effective assessed task for students to demonstrate their overall attainment of intended learning outcomes (a) – (e) at the end of the curriculum.</p> <p>A letter-grading system will be used to assess students' performance.</p>							
<b>Student Study Effort Expected</b>	Class contact:						
	▪	Inspirational Lectures	6 Hrs.				
	▪	Site visits	12 Hrs.				
	▪	Seminars	3 Hrs.				
	Other student study effort:						
	▪	Report/Self Study	15 Hrs.				
	Total student study effort		36 Hrs.				
<b>Reading List and References</b>	<p>M. Millais. <i>Building Structures: understanding the basics</i> (3<sup>rd</sup> edition), Routledge, 2017.</p> <p>B.M. Das. <i>Principles of Geotechnical Engineering</i> (9<sup>th</sup> edition), Cengage Learning, 2017</p> <p>C. Khisty, &amp; B. Lall. (2003). <i>Transportation engineering: An introduction</i> (3rd edition). Upper Saddle River, N.J.: Prentice Hall.  <a href="https://julac.hosted.exlibrisgroup.com/permalink/f/aohbd4/HKPU_I721172629240003411">https://julac.hosted.exlibrisgroup.com/permalink/f/aohbd4/HKPU_I721172629240003411</a></p>						

R. Houghtalen, A.O. Akan, & N. Hwang. *Fundamentals of Hydraulic Engineering Systems* (5<sup>th</sup> edition), Pearson Education, 2016.

McKenzie L. Davis & David A. Cornwell, *Introduction to Environmental Engineering*, McGraw-Hill Europe, 2012.

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