Subject Description Form

Subject Code	**CSE2700/IC2700**
Subject Title	Construction Practices and Safety
Credit Value	2 Training Credits
Level	2
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject helps students to relate the academic theories of traditional and advanced construction technologies to real-world construction practices. The subject also introduces workplace safety practices.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. apply appropriate construction practices to building tasks with regards to task complexity and workplace safety; b. compare traditional and advanced construction technologies in terms of productivity, quality, cost, and design limitation; and c. recommend health and safety measures by evaluating workplace safety issues in construction sites.
Subject Synopsis/ Indicative Syllabus	<u>Traditional Construction Practices</u> • Introduction of traditional construction trades such as formwork, brickwork, structural concrete and steelwork, etc.; • Technical and economical characteristics of traditional practices; and • Advantages and limitations of traditional practices. <u>Advanced Construction Practices</u> • Introduction of advanced construction tools and machines such as VR/AR, AI, drone, construction robot, 3D printer etc. used in construction; • Basic tools and machine operation using 3D modelling data; • Technical and economical characteristics of advanced construction technologies; and • Advantages and limitations of advance practices. <u>Industrial Safety Practices</u> • Introduction of occupational safety and health regulations; and • Occupational health issues and safety technologies related to workplace safety in construction sites.

<table>
<tr><td>Learning Methodology</td><td>The subject will be delivered through the following learning methods:
a. Mini-lectures - Lectures and demonstrations are used to explain declarative and procedural knowledges. Case studies and small group discussions are used to relate these knowledges to real-life practices;
b. Hands-on workshops - Students are organized to perform hands-on works in small groups under supervision of IC training staff in workshops. A wide range of construction processes, tools and machines are demonstrated. Hands-on sessions are arranged, if appropriate, for students to appreciate good practices, workmanship, skills and techniques;
c. Assignments - Individual assignments are arranged to strengthen students' knowledge on construction practices and work place safety; and
d. Self-learning - On-line learning materials are provided for students to broaden their knowledge of emerging technologies.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><th rowspan="2">Assessment Method</th><th rowspan="2">Weighting (%)</th><th colspan="3">Intended Subject Learning Outcomes Assessed</th></tr>
<tr><th>a</th><th>b</th><th>c</th></tr>
<tr><td>Assignments</td><td>30</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Reports</td><td>30</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Tests</td><td>40</td><td>✓</td><td>✓</td><td>✓</td></tr>
</table>
Assignments - Students' learning outcomes are assessed continuously by assignments in the form of worksheets.

Reports - Students' reflection on their learning outcomes are captured by their training reports.

Tests - Multiple-choices and short-question type on-line tests are used to assess students on their declarative knowledge and analytical thinking ability.</td></tr>
<tr><td>Student Study Effort Required</td><td>
<table>
<tr><td>Class Contact</td><td></td></tr>
<tr><td>Mini lecture and demonstration</td><td>29 Hrs</td></tr>
<tr><td>Hands-on practice and test</td><td>31 Hrs</td></tr>
<tr><td>Other Study Effort</td><td></td></tr>
<tr><td>Assignment and report</td><td>6 Hrs</td></tr>
<tr><td>Self-learning</td><td>4 Hrs</td></tr>
<tr><td>Total Study Effort:</td><td>70 Hrs</td></tr>
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</td></tr>
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Reading List and References	**Reading Materials:** • Construction Industry Council DfMA Alliance Learning Resources (http://www.cic.hk/eng/main/dfma_alliance/knowledge_sharing/) • Labour Department publications on occupational safety (http://www.labour.gov.hk/eng/public/content2_8.htm) • Labour Department publications on occupational health (http://www.labour.gov.hk/eng/public/content2_9.htm) **References:** • Hong Kong Law Cap 59, Cap 509 and Cap 282 (https://www.elegislation.gov.hk/index/chapternumber?p0=1&TYPE=1&TYPE=2&TYPE=3&LANGUAGE=E)