

## Subject Description Form

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| <b>Subject Code</b>                                   | CSE2708/IC2708                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Subject Title</b>                                  | Building Information Modelling (BIM) Management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Credit Value</b>                                   | 1 Training Credit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Level</b>                                          | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Pre-requisite/<br/>Co-requisite/<br/>Exclusion</b> | CSE2707/IC2707 Building Information Modelling (BIM) Basic & Structure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Objectives</b>                                     | This subject aims to equip students with the knowledge and skills to be in a BIM managerial role in a construction project. It is commensurate with core subjects of the Construction Industrial Council (CIC) Accreditation of Building Information Modelling (BIM) Manager Courses.                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Intended Learning Outcomes</b>                     | <p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> <li>1. Describe BIM concepts, definitions and scopes, BIM standards and guidelines in the Hong Kong and global contexts;</li> <li>2. Describe BIM software/platforms, and their modelling and digital information development processes, and various technologies associated with BIM;</li> <li>3. Explain BIM uses, processes and BIM software/platform utilisation, and to design and manage BIM project workflow; and</li> <li>4. Explain commercial and financial consideration, and comply with contractual issues related to BIM implementation.</li> </ol>                |
| <b>Subject Synopsis/<br/>Indicative Syllabus</b>      | <p><u>BIM initiation</u></p> <ul style="list-style-type: none"> <li>• BIM Concept</li> <li>• Local, Mainland &amp; Global BIM development and standards</li> </ul> <p><u>BIM software and technologies</u></p> <ul style="list-style-type: none"> <li>• BIM Software and Platforms</li> <li>• Technologies and Construction Related Applications</li> </ul> <p><u>BIM Uses and Processes</u></p> <ul style="list-style-type: none"> <li>• BIM Organisation Strategy and Requirements</li> <li>• Project Planning Stage</li> <li>• Project Design Stage</li> <li>• Project Construction &amp; Handover Stage</li> <li>• Building / Asset Operation &amp; Maintenance Stage</li> </ul> |

|                                                                 | <u>Digital Information Management, Collaboration and Integration</u> <ul style="list-style-type: none"><li>Digital Information Management</li></ul> <u>Commercial and Contract</u> <ul style="list-style-type: none"><li>Commercial Issue</li><li>Contractual and Liabilities Issue</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                   |             |                                                   |   |  |  |   |   |   |   |                |     |   |   |   |  |            |     |   |   |   |   |       |      |  |  |  |  |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|---------------------------------------------------|---|--|--|---|---|---|---|----------------|-----|---|---|---|--|------------|-----|---|---|---|---|-------|------|--|--|--|--|
| Teaching/Learning Methodology                                   | <p>The subject will be delivered through the following learning methods:</p> <p><b>Mini-lectures</b> – Lectures and demonstrations are used to introduce and explain key concept, definition and application. Multi-media illustrations are used for students to appreciate good practices.</p> <p><b>Multi-media Demonstrations</b> – Such as live-demo, images and videos, and various immersive technologies will be used for demonstrations whenever appropriate.</p> <p><b>Hands-on workshops</b> – Group discussion or hands-on activities are arranged to solidify and practice the knowledge and skills students have learnt in the class.</p> <p><b>Assignments and Reports</b> – Assignments and Reports are provided for students to reflect and apply their knowledge gained from the class.</p>                                                                                           |                                   |             |                                                   |   |  |  |   |   |   |   |                |     |   |   |   |  |            |     |   |   |   |   |       |      |  |  |  |  |
| Assessment Methods in Alignment with Intended Learning Outcomes | <table><tr><th rowspan="2">Specific assessment methods/tasks</th><th rowspan="2">% weighting</th><th colspan="4">Intended subject learning outcomes to be assessed</th></tr><tr><th>a</th><th>b</th><th>c</th><th>d</th></tr><tr><td>1. Assignments</td><td>60%</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr><tr><td>2. Reports</td><td>40%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr><tr><td>Total</td><td>100%</td><td colspan="4"></td></tr></table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <ul style="list-style-type: none"><li>Assignments - In-class assignments are designed to encourage students to reflect on and apply the knowledge they have acquired during the mini-lectures.</li><li>Reports – Student’s performance on their learning outcomes are captured by their individual essay.</li></ul> | Specific assessment methods/tasks | % weighting | Intended subject learning outcomes to be assessed |   |  |  | a | b | c | d | 1. Assignments | 60% | ✓ | ✓ | ✓ |  | 2. Reports | 40% | ✓ | ✓ | ✓ | ✓ | Total | 100% |  |  |  |  |
| Specific assessment methods/tasks                               | % weighting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                   |             | Intended subject learning outcomes to be assessed |   |  |  |   |   |   |   |                |     |   |   |   |  |            |     |   |   |   |   |       |      |  |  |  |  |
|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | a                                 | b           | c                                                 | d |  |  |   |   |   |   |                |     |   |   |   |  |            |     |   |   |   |   |       |      |  |  |  |  |
| 1. Assignments                                                  | 60%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ✓                                 | ✓           | ✓                                                 |   |  |  |   |   |   |   |                |     |   |   |   |  |            |     |   |   |   |   |       |      |  |  |  |  |
| 2. Reports                                                      | 40%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ✓                                 | ✓           | ✓                                                 | ✓ |  |  |   |   |   |   |                |     |   |   |   |  |            |     |   |   |   |   |       |      |  |  |  |  |
| Total                                                           | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                   |             |                                                   |   |  |  |   |   |   |   |                |     |   |   |   |  |            |     |   |   |   |   |       |      |  |  |  |  |

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| <b>Student Study Effort Expected</b> | Class contact:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |
|                                      | ▪ Mini-lectures and hands-on workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 Hrs. |
|                                      | Other student study effort:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |
|                                      | ▪ Self-learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 Hrs.  |
|                                      | Total student study effort                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30 Hrs. |
| <b>Reading List and References</b>   | <p><b>Reading List:</b></p> <ul style="list-style-type: none"> <li>• Design Integration Using Autodesk Revit 2025 Architecture, Structure and MEP, Daniel John Stine, 2024</li> <li>• Adoption of Building Information Modelling for Capital Works Projects in Hong Kong, DEVB Technical Circular (Works) No. 02/2021, Ref: DEVB(W) 430/80/01, 13 June 2023,<br/> <a href="https://www.devb.gov.hk/filemanager/technicalcirculars/en/upload/387/1/C-2021-02-02.pdf">https://www.devb.gov.hk/filemanager/technicalcirculars/en/upload/387/1/C-2021-02-02.pdf</a></li> <li>• Construction Industry Council BIM Publications (<a href="https://www.bim.cic.hk/en/resources/publications">https://www.bim.cic.hk/en/resources/publications</a>)</li> </ul> <p><b>References:</b></p> <ul style="list-style-type: none"> <li>• ISO 19650   BSI Hong Kong - BSI Group, <a href="https://www.bsigroup.com/en-HK/">https://www.bsigroup.com/en-HK/</a></li> <li>• The BIM management handbook, Shepherd David, Newcastle upon Tyne : RIBA Publishing 2015, ISBN: 9780429347535</li> <li>• BIM-Based Collaborative Building Process Management, Daniotti Bruno; Pavan Alberto; Lupica Spagnolo Sonia; Caffi Vittorio; Pasini Daniela; Mirarchi Claudio, Cham: Springer International Publishing AG 2019, ISBN: 9783030328887</li> <li>• BIM and Construction Management: Proven Tools, Methods, and Workflows, Hardin Brad; McCool Dave, New York: John Wiley &amp; Sons, Incorporated 2015, ISBN: 9781118942765</li> <li>• Lovell, Lucy &amp; Davies, Richard &amp; Hunt, D. (2024). Building Information Modelling Facility Management (BIM-FM). Applied Sciences. 14. 3977. 10.3390/app14103977.</li> </ul> |         |