

## Subject Description Form

<b>Subject Code</b>	BRE470
<b>Subject Title</b>	Information Technology and Building Information Modelling for Construction
<b>Credit Value</b>	3
<b>Level</b>	4
<b>Pre-requisite / Co-requisite/ Exclusion</b>	Nil
<b>Objectives</b>	This subject is intended to develop an understanding of the practical application of computer systems and packages in building life cycle process and the application of building information modelling (BIM) in construction.
<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. understand and demonstrate knowledge of building life cycle process.</li> <li>b. understand and demonstrate knowledge of the application of computer systems and BIM in various procurement stages of a building project.</li> <li>c. appraise commercially available and tailor-made computer packages and BIM application in building life cycle process.</li> </ol>
<b>Subject Synopsis/ Indicative Syllabus</b>	<p>The process of building life cycle.</p> <p>Identifying the benefits of construction IT/ BIM applications.</p> <p>The appraisal of CAD/BIM systems in design communication and drawing production.</p> <p>The application of construction IT/ BIM packages in cost planning and preliminary estimating.</p> <p>The application of construction IT/BIM in the preparation of tender, measurement and production documents.</p> <p>Computerized estimating, bidding and tender appraisal.</p> <p>The application of IT/BIM in post-contract cost control, valuation, interim payment and final project account.</p> <p>Computerized construction management in project planning, information control, materials control, progress control and quality assurance.</p> <p>The application of IT/BIM in property and facility management.</p>

<b>Teaching/Learning Methodology</b>	Lectures and workshops will be run throughout the semester period. A lecture schedule outlining the topics to be covered will be distributed to students in the first lecture of the semester. In the workshop periods, students will be required to assess and use the systems and to prepare group assignments.																																																														
<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	<table border="1" data-bbox="440 407 1474 801"> <thead> <tr> <th data-bbox="440 407 743 586" rowspan="2">Specific assessment methods/tasks</th> <th data-bbox="743 407 912 586" rowspan="2">% weighting</th> <th colspan="6" data-bbox="912 407 1474 510">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th data-bbox="912 510 1031 586">a</th> <th data-bbox="1031 510 1117 586">b</th> <th data-bbox="1117 510 1203 586">c</th> <th data-bbox="1203 510 1289 586"></th> <th data-bbox="1289 510 1375 586"></th> <th data-bbox="1375 510 1474 586"></th> </tr> </thead> <tbody> <tr> <td data-bbox="440 586 743 658">1. Coursework</td> <td data-bbox="743 586 912 658">50%</td> <td data-bbox="912 586 1031 658">√</td> <td data-bbox="1031 586 1117 658">√</td> <td data-bbox="1117 586 1203 658">√</td> <td data-bbox="1203 586 1289 658"></td> <td data-bbox="1289 586 1375 658"></td> <td data-bbox="1375 586 1474 658"></td> </tr> <tr> <td data-bbox="440 658 743 730">2. Examination</td> <td data-bbox="743 658 912 730">50%</td> <td data-bbox="912 658 1031 730">√</td> <td data-bbox="1031 658 1117 730">√</td> <td data-bbox="1117 658 1203 730">√</td> <td data-bbox="1203 658 1289 730"></td> <td data-bbox="1289 658 1375 730"></td> <td data-bbox="1375 658 1474 730"></td> </tr> <tr> <td data-bbox="440 730 743 801">Total</td> <td data-bbox="743 730 912 801">100%</td> <td colspan="6" data-bbox="912 730 1474 801"></td> </tr> </tbody> </table> <p data-bbox="440 824 1474 896">Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p data-bbox="440 949 1474 1057">Coursework and examination will each constitute 50% of the overall assessment for the subject. The coursework mark will be based on the assignments, presentation and discussion.</p> <p data-bbox="440 1111 1474 1245">The examination will be based on a 2 hours examination gearing towards the materials covered in the lecture periods and background readings. Coursework by assignment and group projects will be set to assess the students' abilities and skills required in this subject.</p>							Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						a	b	c				1. Coursework	50%	√	√	√				2. Examination	50%	√	√	√				Total	100%																								
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<b>Reading List and References</b>	<p data-bbox="440 1800 1474 1836">ASCE Journal of Computing in Civil Engineering (<a href="http://www.asce.org">http://www.asce.org</a>).</p> <p data-bbox="440 1872 1474 1944"><i>Automation in Construction</i>. An International Research Journal. (<a href="http://www.elsevier.com/locate/autocon">http://www.elsevier.com/locate/autocon</a>).</p> <p data-bbox="440 1962 1474 2069">Bryde, D., Broquetas, M. and Volm, J.M. (2013). <i>The Project Benefits of Building Information Modelling (BIM)</i>, International Journal of Project Management, Volume 31, Number 7, pp. 971-980.</p>																																																														

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