

## 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>	Upon completion of the subject, students will be able to: <ul 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> </ul>
<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="440 405 1466 797"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>1. Coursework</td> <td>50%</td> <td>√</td> <td>√</td> <td>√</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2. Examination</td> <td>50%</td> <td>√</td> <td>√</td> <td>√</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>100%</td> <td colspan="6"></td> </tr> </tbody> </table> <p data-bbox="440 819 1473 891">Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p data-bbox="440 949 1473 1059">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 1104 1473 1249">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>	ASCE Journal of Computing in Civil Engineering ( <a href="http://www.asce.org">http://www.asce.org</a> ). <i>Automation in Construction</i> . An International Research Journal. ( <a href="http://www.elsevier.com/locate/autocon">http://www.elsevier.com/locate/autocon</a> ). 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.																																																						

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Eastman, C., Eastman, C.M., Teicholz, P., Sacks, R. and Liston, K. (2011). *BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors*, John Wiley & Sons.

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