

Subject Description Form

Subject Code	BRE470
Subject Title	Information Technology and Building Information Modelling for Construction
Credit Value	3
Level	4
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	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.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: <ul style="list-style-type: none"> a. understand and demonstrate knowledge of building life cycle process. b. understand and demonstrate knowledge of the application of computer systems and BIM in various procurement stages of a building project. c. appraise commercially available and tailor-made computer packages and BIM application in building life cycle process.
Subject Synopsis/ Indicative Syllabus	<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>

Teaching/Learning Methodology	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.																																																			
Assessment Methods in Alignment with Intended Learning Outcomes	<table border="1" data-bbox="440 405 1466 797"> <thead> <tr> <th data-bbox="440 405 743 584" rowspan="2">Specific assessment methods/tasks</th> <th data-bbox="743 405 911 584" rowspan="2">% weighting</th> <th colspan="5" data-bbox="911 405 1466 510">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th data-bbox="911 510 1027 584">a</th> <th data-bbox="1027 510 1114 584">b</th> <th data-bbox="1114 510 1200 584">c</th> <th data-bbox="1200 510 1286 584"></th> <th data-bbox="1286 510 1372 584"></th> <th data-bbox="1372 510 1466 584"></th> </tr> </thead> <tbody> <tr> <td data-bbox="440 584 743 656">1. Coursework</td> <td data-bbox="743 584 911 656">50%</td> <td data-bbox="911 584 1027 656">√</td> <td data-bbox="1027 584 1114 656">√</td> <td data-bbox="1114 584 1200 656">√</td> <td data-bbox="1200 584 1286 656"></td> <td data-bbox="1286 584 1372 656"></td> <td data-bbox="1372 584 1466 656"></td> </tr> <tr> <td data-bbox="440 656 743 728">2. Examination</td> <td data-bbox="743 656 911 728">50%</td> <td data-bbox="911 656 1027 728">√</td> <td data-bbox="1027 656 1114 728">√</td> <td data-bbox="1114 656 1200 728">√</td> <td data-bbox="1200 656 1286 728"></td> <td data-bbox="1286 656 1372 728"></td> <td data-bbox="1372 656 1466 728"></td> </tr> <tr> <td data-bbox="440 728 743 797">Total</td> <td data-bbox="743 728 911 797">100%</td> <td colspan="5" data-bbox="911 728 1466 797"></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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Reading List and References	<p data-bbox="440 1798 1382 1834">ASCE Journal of Computing in Civil Engineering (http://www.asce.org).</p> <p data-bbox="440 1868 1265 1942"><i>Automation in Construction</i>. An International Research Journal. (http://www.elsevier.com/locate/autocon).</p> <p data-bbox="440 1960 1473 2067">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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