

Title:	Building Information Modeling APPROVED
Long Title:	Building Information Modeling
Module Code:	ARCH8020
Credits:	5
NFQ Level:	Advanced
Field of Study:	Architecture & Urban Environment
Valid From:	Semester 1 - 2014/15 (September 2014)
Module Delivered in	4 programme(s)
Module Coordinator:	KATHERINE KEANE
Module Author:	KATHERINE KEANE
Module Description:	This module provides advanced instruction in Building Information Modeling (BIM) for Architecture including measurement and analysis. This module helps to develop the student's ability to use BIM as a tool to construct parametric models for use in predictive analysis. BIM is explored in relation to its use in post construction measurement and geomatic data.
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Prepare a digital survey measurement and descriptive drawings using BIM.
LO2	Use BIM for building energy performance analysis, solar radiation, lighting, acoustics, air flow.
LO3	Integrate BIM interdisciplinary practice using a common building model.
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named CIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.</i>	
No requirements listed	
Co-requisites	
No Co Requisites listed	

Module Content & Assessment

Indicative Content	
Building function analysis	n/a
Geomatic data input	n/a
Energy analysis	n/a
External shell for solar radiation	n/a
Internal zones and heat generation	n/a
HVAC and mechanical plant analysis	n/a
Lighting simulation	n/a
Acoustic analysis	n/a
Air flow simulations	n/a

Assessment Breakdown	%
Course Work	100.00%

Course Work				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Stage 1. BIM software application for solar and heat generation, HVAC.	1,2,3	50.0	Week 6
Project	Stage 2. BIM software application for lighting, acoustic and air flow.	1,2,3	50.0	Sem End

No End of Module Formal Examination

Reassessment Requirement
Coursework Only <i>This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.</i>

The institute reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time

<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lab	Software instruction	3.0	Every Week	3.00
Independent & Directed Learning (Non-contact)	Software application assignment	4.0	Every Week	4.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				3.00

Workload: Part Time

<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lab	Software instruction	3.0	Every Week	3.00
Independent & Directed Learning (Non-contact)	Software application assignment	4.0	Every Week	4.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				3.00

Module Resources
<i>Recommended Book Resources</i>
<ul style="list-style-type: none"> • Chuck Eastman, Paul Teicholz, Rafael Sacks, Kathleen Liston 2011, <i>BIM Handbook</i>, 2nd Ed. [ISBN: 978-0470541371]
<i>This module does not have any article/paper resources</i>
<i>This module does not have any other resources</i>

Module Delivered in

Programme Code	Programme	Semester	Delivery
CR_CARCT_8	<u>Bachelor of Science (Honours) in Architectural Technology (Ab-initio, CR560)</u>	7	Elective
CR_DINAR_8	<u>Bachelor of Science (Honours) in Interior Architecture</u>	7	Elective
CR_CARCT_9	<u>Master of Science in Architectural Technical Design</u>	2	Elective
CR_DINAR_9	<u>Master of Science in Interior Architecture</u>	2	Elective