School of Architecture and Built Environment

ARBE1103: Digital Communication in the Built Environment

Callaghan / Online Semester 2 - 2023

Contact Hours



OVERVIEW

Course Description This course prepares the future generation of professionals in the built environment to respond to a range of existing and emerging digital technologies. The course content provides an overview of current information technologies and digitally mediated communication strategies within the building industry. By extending traditional methods of communication utilised within the

and documentation.

Requisites This course is only available to students enrolled in one of the Bachelor of Design (Architecture) [10028], Bachelor of Construction Management (Building) (Honours) [12331], Diploma of Built Environment [40320] or Bachelor of Construction Management (Building) (Honours) [40374] programs.

built environment, the course aims to develop an understanding of digital media through the application of digital communication



Lecture Face to Face On Campus 1 hour(s) per Week for 12 Weeks starting Week 1 Online students will receive equivalent instruction through online or other distance education strategies. Tutorial Face to Face On Campus 2 hour(s) per Week for 8 Weeks Online students will receive equivalent instruction through online or other distance education strategies. Compulsory 80% attendance is compulsory for Tutorials for all On Campus, Attendance Face to Face enrolled students in ARBE1103. Attendance will be recorded for the following sessions: ALL Tutorials (Weeks 1-5 and 7-9) Method of recording: All students' attendance will be recorded using the myUON App. You will need to check in using the App **Unit Weighting** 10 Workload Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

www.newcastle.edu.au CRICOS Provider 00109J



CONTACTS

Course Coordinator	Online Dr Nicholas Foulcher Nicholas.Foulcher@newcastle.edu.au (02) 491 38526 Consultation:
	Dr Liyaning Maggie Tang Maggie.Tang@newcastle.edu.au (02) 4985 4587 Consultation:
Teaching Staff	Other teaching staff will be advised on the course Canvas site.
School Office	School of Architecture and Built Environment Architecture Building Callaghan archbe@newcastle.edu.au +61 2 4921 5771
SYLLABU	S
Course Content	 Teaching and learning within the course is concerned with the following key themes: Introduction to information technology in the built environment. This includes: Computer Aided Design (CAD), Building Information Modelling (BIM), Parametric Modelling, Geographic Information Systems (GIS), Web Portals, Project Information Management Systems, Digital Fabrication, Virtual Reality (VR) and Augmented Reality (AR); Developing simple 3D modelling techniques;

- Digital documentation techniques;Digital communication techniques.

Course Learning Outcomes	On successful completion of this course, students will be able to: 1. Investigate the principles and application of digital communication technologies utilised within the built environment.		
	2. Produce basic digital models using descriptive and simulative CAD software.		
	3. Interpret digital documentation used within development approvals and building certification, tendering and construction.		
	4. Visually present representational outcomes as a cohesive set of documents		
	5. Work coherently and collaboratively within a group setting.		
Course Materials	Revit will be the primary software instructed during tutorials throughout the term. Students will receive instructions on how to register and download this software for their personal devices when course outline is issued.		
	In addition to Tutorials, self-directed tutorials for Revit will be recommended via LinkedIn Learning. For more information on getting access:		
	https://www.newcastle.edu.au/library/library-highlights/linkedin-learning		

These tutorials are an essential resource to help develop and further your skills with software packages. All students may register online for free by using their student email account.

ASSESSMENTS

This course has 3 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Online Quiz	Opens: 09:00 Monday 28/08/2023 Closes: 23:59 Sunday 03/09/2023	Individual	20%	1
2	BIM Project	23:59 Friday 22/09/2023	Group	30%	2, 3, 5
3	Drawing Package and Journal	23:59 Wednesday 1/11/2023	Individual	50%	4

Late Submissions The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Online Quizzes

Assessment Type Description	Quiz This assessment is an individual task consisting of one quiz.				
	This Quiz will test individual student knowledge on the following: Digital Literacy; User Interfaces; 3D Modelling; BIM in the Construction Industry; Parametric Operations; and Features of Revit.				
	Quiz Guidelines:				
	 Students will have 30-60 Minutes to complete the Quiz, at the end of this time the Quiz will close. The Quiz is open book, but students will need to complete the Quiz individually. Questions are all of equal weighting. Students will only have ONE attempt at the Quiz. In the Quiz, the questions will be presented one at a time. Students need to be sure of their answers before they move on as they cannot go back to a question once they have completed it (no backtracking). 				
Weighting Due Date Submission Method Assessment Criteria Return Method Feedback Provided	20% Opens: 09:00 Monday 28/08/2023 Closes: 23:59 Sunday 03/09/2023 Canvas Quiz Matching, Multiple Choice and Fill in the Blank questions. Not Returned Online - On completion of quiz.				
Assessment 2 -	BIM Project (Group)				
Assessment Type Description	Project In this project-based group assessment, students will become familiar with 3D Modelling and Building Information Modelling (BIM) packages. Using Revit, students will implement a building proposal for a client.				
	The purpose of this assessment is to provide students with the skills to respond to a project task through utilising industry essential BIM modelling packages to produce a basic digital model; providing context for understanding the importance of digital communication applications in the built environment.				

A detailed Project Brief will be provided on Canvas in Week 1 Weighting 30% **Due Date** 23:59 Friday 22/09/2023



Submission Method Assessment Criteria	 Online Model completeness and accuracy Model organization Digital documentation interpretation Collaborative working skills
Return Method	Not returned
Feedback Provided	Online - Generally within 3 weeks of submission. Marked-up Rubrics and General Feedback will be provided.
Assessment 3 - D	rawing Package and Journal (Individual)
Assessment Type Description	Report Using the BIM Model from Assessment 2, students will individually produce a Drawing Package and Project Journal.
	A detailed Project Brief will be provided on Canvas in Week 1.
Weighting	50%
Due Date	23:59 Wednesday 1/11/2023
Submission Method Assessment Criteria	 Completeness and organisation of Drawing Package Completeness and organisation of Project Journal Overall visual production
Return Method	Not returned
Feedback Provided	Online - Generally within 3 weeks of submission. Marked-up Rubrics and General Feedback will be provided.

ADDITIONAL INFORMATION

Grading Scheme

	Range	of	Grade		Descripti	o
Т	his cou	rse is	s grade	d as fo	ollows:	

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

*Skills are those identified for the purposes of assessment task(s).

Communication Methods Communication methods used in this course include:



Course Evaluation	Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.
Oral Interviews (Vivas)	As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the <u>Oral Examination (viva) Procedure</u> . In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the <u>Student Conduct Rule</u> .
Academic Misconduct	All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to https://policies.newcastle.edu.au/document/view-current.php?id=35.
Adverse Circumstances	 The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where: the assessment item is a major assessment item; or the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system; you are requesting a change of placement; or the course has a compulsory attendance requirement. Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at: https://policies.newcastle.edu.au/document/view-current.php?id=236
Important Policy Information	The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at https://www.newcastle.edu.au/current-students/no-room-for/policies-and-procedures that support a safe and respectful environment at the University.

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as *the original.* © 2023 The University of Newcastle, Australia