

ARBE3309: Measurement of Building Works 2

Singapore BCA, Callaghan and Online
Semester 1 - 2024



OVERVIEW

Course Description	This course advances students' knowledge in the process of building measurement and bills of quantity through the use of industry standard software. Elements of measurement and bills of quantities, in accordance with the Australian & New Zealand Standard Method of Measurement of Building Works (ANZSMM), are applied.
Academic Progress Requirements	Nil
Requisites	Nil
Assumed Knowledge	ARBE2301 – Measurement 1
Contact Hours	<p>Singapore BCA Lectorial Online 3 hour(s) per week(s) for 13 week(s) starting Week 1 Online students will receive equivalent instruction through online or other distance education strategies</p> <p>Callaghan Lectorial Face to Face On Campus 3 hour(s) per week(s) for 13 week(s) starting Week 1</p> <p>Online Lectorial Online 3 hour(s) per week(s) for 13 week(s) starting Week 1 Online students will receive equivalent instruction through online or other distance education strategies</p>
Unit Weighting Workload	10 Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

CONTACTS

Course Coordinator	Singapore BCA, Callaghan and Online Mr Cameron Beard Cameron.Beard@newcastle.edu.au (02) 4055 3428 Consultation: By appointment
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

SYLLABUS

Course Content	<ul style="list-style-type: none">• Specialised computer software for measurement and BQ preparation of groundworks• Measurement process of masonry• Measurement process of roofing• Measurement process of finishes• Use of BIM in Measurement• Overview and future directions of measurement
Course Learning Outcomes	On successful completion of this course, students will be able to: <ol style="list-style-type: none">1. Investigate the process of on-screen measurement2. Investigate the process of 3D measurement3. Apply the rules for bills of quantities to computer software4. Prepare building measurement and bills of quantities for major trades utilising on-screen and 3D software: groundworks, masonry, roofing, finishes5. Extract relevant information from Building Information Models
Course Materials	Multi-Media Resource: <ul style="list-style-type: none">- Access to appropriate software to convert and combine multiple files into a single pdf. Adobe Acrobat and PDF Converter Pro have been proven suitable. Other Resources: <ul style="list-style-type: none">- Brightbox Mudshark and Buildsoft Cubit or RIB Cost X. A student version of this software is available via the links provided within the course Canvas site. Required Text: <p>Australian Institute of Quantity Surveyors, New Zealand Institute of Quantity Surveyors (Inc), Master Builders Australia and Registered Master Builders Association of NZ (Inc). (2022) Australian and New Zealand Standard Method of Measurement of Building Works, 2022 Ed. Sydney, NSW: AIQS, NZIQS, MBA & RMBANZ – <i>Those students who do not have a copy from Measurement 1 are expected to purchase a copy. This text is only available in hard copy.</i></p>

SCHEDULE

Week	Week Begins	Topic	Learning Activity	Assessment Due
1	26 Feb	Module 0: Introduction	Lecture Material & Tutorials	
2	4 Mar	Module 1: Why & How we Measure - Why we measure - ANZSMM Review - Ground Works Revision	Lecture Material & Tutorials	
3	11 Mar	Module 2: Measuring Ground Works with Software - Ground Works Software & The Existing Site - The Proposed Site & Entering Info - Ground Works & Mudshark Calculations	Lecture Material & Tutorials	
4	18 Mar			
5	25 Mar	Module 3: What to Measure & How - Measuring a Trade Recap - Measuring Finishes - Reviewing the Info	Lecture Material & Tutorials	Assessment 1 - Groundworks (40%) 5pm Sunday 31st March 2024
6	1 Apr	Module 4: Using Software for Take-Off - Software Training	Lecture Material & Tutorials	
7	8 Apr	Module 5: Measuring Trades - Why these Trades? - Masonry Trade	Lecture Material & Tutorials	
Mid-Semester Recess				
Mid-Semester Recess				
8	29 Apr	- Roofing Trade	Lecture Material & Tutorials	
9	6 May	- Finishes Trades		
10	13 May	Module 6: Measurement & BIM - Introduction to BIM - BIM & The Cost Planner - BIM & Material Take-Off	Lecture Material & Tutorials	Assessment 2 - Masonry, Roofing & Finishes trades (40%) 5pm Sunday 19th May 2024
11	20 May			
12	27 May			
13	3 Jun	Review & Semester wrap-up		Assessment 3 - Online Quiz (20%) By 5pm Sunday 9th June 2024
Examination Period				
Examination Period				

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	Measurement of Groundworks	5pm Sunday 31st March 2024	Individual	40%	1, 2, 4
2	Measurement of Masonry, Roofing and Finishes	5pm Sunday 19th May 2024	Individual	40%	1, 2, 3, 4
3	Online Quiz	5pm Sunday 9th June 2024	Individual	20%	1, 3, 5

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 - Measurement of Groundworks

Assessment Type Report
Purpose Preparation of a BOQ for Groundworks using Brightbox Mudshark - Refer to the Project Scenario document on Canvas.
Description
Weighting 40%
Due Date 5pm Sunday 31st March 2024
Submission Method Online
 in the "Assessment" area on Canvas
Assessment Criteria Refer to the Project Scenario document on Canvas for details and assessment rubric.
Return Method Not Returned
Feedback Provided Online - typically within three weeks of submission. Feedback will comprise the band (F, P, C, D or HD) within each rubric section.

Assessment 2 - Measurement of Masonry, Roofing and Finishes

Assessment Type Report
Purpose Preparation of BOQ for masonry, roofing and the finishes trades using Buildsoft Cubit or iTwo Cost X - Refer to the Project Scenario document on Canvas
Description
Weighting 40%
Due Date 5pm Sunday 19th May 2024
Submission Method Online
 in the "Assessment" area of Canvas.
Assessment Criteria Refer to the Project Scenario document on Canvas for details and assessment rubric
Return Method Not Returned
Feedback Provided Online - typically within three weeks of submission. Feedback will comprise the band (F, P, C, D or HD) within each rubric section.

Assessment 3 - Online Quiz

Assessment Type Quiz
Purpose The quiz will consist of multiple choice/short answer questions to be completed in a set time. The quiz is open book and must be completed on one single session.
Description
Weighting 20%
Due Date 5pm Sunday 9th June 2024
Submission Method Online
 in the "Assessment" area on Canvas
Assessment Criteria Multiple Choice/Short Answer
Return Method Not Returned
Feedback Provided Online - on completion of the quiz.

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

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 [Oral Examination \(viva\) Procedure](#). 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 [Student Conduct Rule](#).

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:

1. the assessment item is a major assessment item; or
2. 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;
3. you are requesting a change of placement; or
4. 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/respect-at-uni/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.

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