

## ARBE2308: Cost Planning and Estimating

Singapore BCA, Callaghan and Online  
Semester 1 - 2024



THE UNIVERSITY OF  
NEWCASTLE  
AUSTRALIA

## OVERVIEW

<b>Course Description</b>	This course examines and applies estimating tools, techniques and software for costing construction projects in its various stages, from both client and contractor perspectives. Elements of preliminary estimating, cost planning and detailed estimating will be integrated and applied to enable informed rational cost related decisions. Students will apply estimating principles to price/cost superficial spaces, functional areas, elements, resources and trades and develop ethical bidding strategies.
<b>Academic Progress Requirements</b>	Nil
<b>Requisites</b>	To enrol in this course you must have successfully completed ARBE2301 – Measurement 1.
<b>Contact Hours</b>	<b>Singapore BCA</b> <b>Lectorial</b> 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.  <b>Callaghan</b> <b>Lectorial</b> Face to Face On Campus 3 hour(s) per week(s) for 13 week(s) starting Week 1  <b>Online</b> <b>Lectorial</b> 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.
<b>Unit Weighting Workload</b>	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

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# CONTACTS

<b>Course Coordinator</b>	<b>Singapore BCA, Callaghan and Online</b> Mr Cameron Beard Cameron.Beard@newcastle.edu.au (02) 4055 3428 Consultation: By appointment
<b>Teaching Staff</b>	Other teaching staff will be advised on the course Canvas site.
<b>School Office</b>	<b>School of Architecture and Built Environment</b> Architecture Building Callaghan archbe@newcastle.edu.au +61 2 4921 5771

# SYLLABUS

<b>Course Content</b>	<ul style="list-style-type: none"><li>• Introduction to cost planning and estimating Preliminary estimating techniques</li><li>• Preparing cost plans</li><li>• Estimating preliminaries &amp; temporary works</li><li>• Estimating trades (selected trades)</li><li>• Bidding models and tendering strategies</li><li>• Civil engineering (infrastructure) estimating basics</li><li>• Estimating with computers</li><li>• Preparing for pre qualifications, Tender evaluation process and Post tender protocols</li></ul>
<b>Course Learning Outcomes</b>	<p><b>On successful completion of this course, students will be able to:</b></p> <ol style="list-style-type: none"><li>1. Apply preliminary cost estimating techniques to prepare building cost plans.</li><li>2. Apply estimating techniques to build unit prices.</li><li>3. Price conforming tenders with available information.</li><li>4. Develop and apply appropriate cost planning and bidding strategies that are ethically appropriate.</li></ol>
<b>Course Materials</b>	<p><b>Multi-Media Resource:</b></p> <ul style="list-style-type: none"><li>- Appropriate software to convert and combine multiple files into a single pdf. Adobe Acrobat and PDF Converter Pro have been suitable</li></ul> <p><b>Other Resources:</b></p> <ul style="list-style-type: none"><li>- iTwo CostX - a student version is available by using the provided link on Canvas.</li></ul> <p>Cubit &amp; CostX are both Windows based software and Mac users will have to make arrangements to operate the software.</p> <p><b>Required Text:</b></p> <ul style="list-style-type: none"><li>- AIQS (2022), Australian Cost Management Manual - Volume 2 (Third Edition), The Australian Institute of Quantity Surveyors – <i>Relevant sections of this text will be made available digitally to students.</i></li></ul>

# SCHEDULE

Week	Week Begins	Topic	Learning Activity	Assessment Due
1	26 Feb	<b>Module 0: Course Introduction</b>	Lecture Material & Tutorial	
2	4 Mar	<b>Module 1: Ethics &amp; Tendering</b> - Ethical Practices and the Code of Tendering - The Estimating and Tender Process - Tendering Strategies - Site Analysis	Lecture Material & Tutorial	
3	11 Mar	<b>Module 2: Reviewing Scope &amp; Pricing</b> - Procurement - Reviewing Project Scope & Quoting - Pricing Preliminaries - Pricing Resources & Detailed Unit Rate Pricing - Unit Rate Pricing	Lecture Material & Tutorial	
4	18 Mar	<b>Module 3: Detailed Pricing</b> - Why these trades? - Earthworks Basics - Earthworks - Excavation Cycles - Earthworks Haulage - Concrete & Pricing - Formwork & Pricing - Reinforcement & Pricing - Masonry & Pricing	Lecture Material & Tutorial	
5	25 Mar			
6	1 Apr			
7	8 Apr	<b>Module 4: Contract Adjudication &amp; Post Contract Considerations</b> - Consultant Adjudication - Post Contract Issues - Tender Adjudication & Evaluation - Security of Payments	Lecture Material & Tutorial	<b>Assessment 1 -</b> Modules 1 to 3 Review Quiz's - <b>By 5pm Friday</b> <b>12th April 2024</b>  <b>Assessment 2 -</b> Tender Pricing (45%) <b>5pm</b> <b>Sunday 14th April 2024</b>
<b>Mid-Semester Recess</b>				
<b>Mid-Semester Recess</b>				
8	29 Apr	<b>Module 5: Cost Planning &amp; Early Cost Advice</b> - Early Cost Advice - The Selected Cost Plan Tool	Lecture Material & Tutorial	
9	6 May			
10	13 May	<b>Module 6: Elemental Estimating</b> - Cost Planning - Building Elements - Cost Planning Site Works & Services - Elemental Estimating Masterclass	Lecture Material & Tutorial	
11	20 May			
12	27 May	<b>Module 7: Cost Plan Finalisation &amp; Cost Control</b> - Cost Planning - Economic Conditions - Cost Planning & Cost Control	Lecture Material & Tutorials	
13	3 Jun	Review & Semester wrap-up		<b>Assessment 1 -</b> Modules 4 to 7 Review Quiz's - <b>By 5pm Friday</b> <b>7th June 2024</b>  <b>Assessment 3 -</b> Cost Planning (40%) - 5pm <b>Friday 7th June 2024</b>
<b>Examination Period</b>				
<b>Examination Period</b>				

# 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	Modules 1 to 3 Review Quiz's - By 5pm Friday 12th April 2024 Modules 4 to 7 Review Quiz's - By 5pm Friday 7th June 2024	Individual	15%	3, 4
2	Tender Pricing Written Assignment	5pm Sunday 14th April 2024	Individual	45%	1, 2, 3, 4
3	Cost Planning Written Assignment	5pm Friday 7th June 2024	Individual	40%	1, 2, 3, 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 Quiz

<b>Assessment Type</b>	Quiz
<b>Purpose</b>	Tender submission preparation - Refer to the Project Scenario document on Canvas.
<b>Description</b>	
<b>Weighting</b>	15%
<b>Due Date</b>	Modules 1 to 3 Review Quiz's - By 5pm Friday 12th April 2024 Modules 4 to 7 Review Quiz's - By 5pm Friday 7th June 2024
<b>Submission Method</b>	Online in the "Assessment" area on Canvas
<b>Assessment Criteria</b>	Refer to the Project Scenario document on Canvas for details and assessment rubric.
<b>Return Method</b>	Not Returned
<b>Feedback Provided</b>	Online – on completion of the quiz.

## Assessment 2 - Tender Pricing Written Assignment

<b>Assessment Type</b>	Written Assignment
<b>Purpose</b>	Tender submission preparation - Refer to the Project Scenario document on Canvas.
<b>Description</b>	
<b>Weighting</b>	45%
<b>Due Date</b>	5pm Sunday 14th April 2024
<b>Submission Method</b>	Online in the "Assessment" area on Canvas
<b>Assessment Criteria</b>	Refer to the Project Scenario document on Canvas for details and assessment rubric.
<b>Return Method</b>	Not Returned
<b>Feedback Provided</b>	Online - typically within three weeks of submission. Feedback will comprise the band (F, P, C, D, HD) within each rubric section.

## Assessment 3 - Cost Planning Written Assignment

<b>Assessment Type</b>	Written Assignment
<b>Purpose</b>	Cost Plan preparation to AIQS format using onscreen take-off software (Cubit or CostX) - Refer to the Project Scenario document on Canvas
<b>Description</b>	
<b>Weighting</b>	40%
<b>Due Date</b>	5pm Friday 7th June 2024
<b>Submission Method</b>	Online in the "Assessment" area of Canvas
<b>Assessment Criteria</b>	Refer to the Project Scenario document on Canvas for details and assessment rubric.
<b>Return Method</b>	Not Returned
<b>Feedback Provided</b>	Online - typically within three weeks of submission. Feedback will comprise the band (F, P, C, D, HD) within each rubric section.

# 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

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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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