

**Te Hoe Hōkai Pakihi**

**Department of Business and Digital Technologies**

**Bachelor of Information and Communication Technologies**

**Graduate Diploma in Information and Communication Technologies**

Course outline for

# **Best Programming Practices (C# .NET) BCDE222**

**Semester Two, 2021**



## Introduction –Kōrero whakatuwhera

This outline contains important information about the delivery and assessment of this course. Read it carefully and if there is anything you do not understand please ensure you ask a staff member listed below for clarification.

Please refer to your **programme handbook** for all programme related information, for example programme structure and regulations, grade scale and assessment regulations.

<https://myara.ara.ac.nz/pages/student-admin/programme-information>

## Academic staff - Kā pouako

Name	Role	Phone	Office	Email address
Dr Luofeng Xu	Course Convenor and Lecturer	940 8394	S153	Luofeng.Xu@ara.ac.nz
Dr Mike Lance	Moderator	940 8318	S157	Michael.Lance@ara.ac.nz
Mehdi Asgarkhani	Academic Manager	940 8126	N122	Mehdi.Asgarkhani@ara.ac.nz

Please email your tutor directly to organise an appointment.

## Timetable - Wātaka

For timetable information for this course, please refer to:

- Tribal – through the student portal; or
- Moodle – EDI > ICT Student Information > Topic 6 Timetables; or
- Noticeboards – Ground floor N Block and Level 2 S Block

## Required texts and resources - Kā rauemi kia tirohia

- Required Text - None
- Learning and Study Resources – to assist you in your study  
<http://www.ara.ac.nz/services-and-support/library>
- Moodle – for course resources  
<https://moodle.ara.ac.nz>
- Timetable Online – to find out rooms, staff members, etc  
<https://ebs4portal-live.ara.ac.nz/>

## Reference to Student Handbooks / Kā Pukapuka Āwhina Taurira

Students should obtain a copy of the following:

- Ara Institute of Canterbury Ltd Enrolment Guide
- Programme Handbook

Each of these contains information for students about a range of policies and procedures including:

- Recognition of Prior Learning (RPL)
- Aegrotat Applications/Impaired Performance/Alternative Assessment Times
- Dishonest Practices
- Referencing

# Course descriptor - Whakamāramataka

## Best Programming Practices (C# .NET)

BCDE222

<i>Credits</i>	15	<i>Level</i>	6
<i>EFTS</i>	0.1250	<i>Grade Scale</i>	G29aa
<i>Notional Learning Hours</i>	150	<i>Work Integrated Learning</i>	0
<i>Effective from</i>	January 2019	<i>Date of this version</i>	May 2018
<i>Pre-requisites</i>	BCDE102		
<i>Co-requisites</i>	Nil		

### Aim

To enable students to develop competence in a programming language to an industry-recognised standard in order to produce commercially viable software.

### Learning outcomes

On successful completion of this course, the student will be able to:

- 1 Demonstrate ability to code to industry standards.
- 2 Demonstrate ability to implement a prototype system.
- 3 Apply knowledge of standards and tools to build complex systems.

### Indicative curriculum

- Language competence to an industry certification level: language basics, classes and objects, interfaces and inheritance, generic methods, enums and structs, assertions, properties and indexers, delegates, lambdas,
- Standard libraries: winforms, file I/O, unit testing, LINQ, graphics and system drawing, WPF
- Multi-developer projects
- Cloud connectivity

### Assessment

<i>No</i>	<i>Assessment Type</i>	<i>Pass Criteria</i>	<i>Weighting</i>	<i>Outcomes Assessed</i>
1	Practical Assessment 1		25%	1
2	Practical Assessment 2		25%	2
3	Portfolio	50%	50%	3

To pass this course, students must gain an average of at least 50% across all assessments, and gain at least 50% in Assessment 3.

## Assessments - Kā Aromatawai

Assessment	Brief	Week of	Weighting
Practical Assessment 1	Exercises to ensure that the student can code to basic industry certification standard and can use all standard language features.	Ongoing  Final due in Week 15	25%
Practical Assessment 2	Plan, design, code, and write tests for the first iteration of a solution (a proof of concept) for a specified problem domain.	Week 08	25%
Portfolio	For a given problem domain, plan and produce subsequent iterations that refine a solution system. The portfolio must explain and evaluate the process by which the system was refined. The portfolio must demonstrate that the system functionality and performance meet requirements.	Week 15	50%

**Note:** Assignment submission details will be advised.

## Assessment tasks - Kā tūmahi aromatawai

Teaching staff will provide you with specific details of what is required for each assessment in advance of the due date. This information may be uploaded to the appropriate course area in Moodle or be given to you in the form of a handout. Staff may also provide additional information, advice and tips regarding assessments during timetabled class sessions, so you are encouraged to attend class regularly.

## Assessment criteria / Marking schedule - Kā paearu

Nearer the time of each assessment, teaching staff will provide you with information on the assessment criteria that will be applied and/or how marks will be awarded.

Read the up-to-date information on the BCDE222 Moodle site.

## Course schedule - Maramataka

Week	Commencing	Topic	Notes
1	26 July	Introduction to Visual Studio, Hello World, variables & data types, basic syntax, control structures (i.e., sequencing, selection & iteration), architectural issues	
2	2 August	Language fundamentals: classes, interfaces, constructors, access modifiers	
3	9 August	More fundamentals: inheritance, overloading, overriding, shadowing, generics	
4	16 August	Exception handling, debug, assertion, File I/O, structs, enums	
5	23 August	Properties, Indexers, String interpolation, collections	
6	30 August	Unit test	
7	6 September	Assessment support	
8	13 September	UI	<b>Assessment #2 due</b>
<b>Graduation Day Friday 17 September</b> <b>Please check with your tutor if you have class</b>			
9	20 September	UI	
10	27 September	UI	
<b>Term Break Monday 4 October – Friday 15 October</b>			
11	18 October	LINQ + database, Entity framework	
<b>No Classes Monday 25 October – Labour Day Holiday</b>			
12	25 October	Delegates, Lambda expression, web services	
13	1 November	Assessment support, version control	
14	8 November	Assessment support, course revision	
<b>No Classes Friday 12 November Show Day Holiday</b>			
15	15 November	Study Week	<b>Assessments #1 &amp; #3 due</b>
16	22 November	Exam Week	
17	29 November	Exam Week	

**Note:** Students will be notified in advance if there are any changes to the course schedule.