Te Hoe Whakairi Kōrero
Department of Creative Arts and Digital Information

Bachelor of Information and Communication Technologies

Graduate Diploma in Information and Communication Technologies

Course outline for

Best Programming Practices (C# .NET) BCDE222

Semester Two, 2023

Ara
Institute of Canterbury
Ara rau, taumata rau

Te Pūkenga

Kōrero whakatuwhera - Introduction

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

Kā pouako – Academic staff

Name	Role	Phone	Office	Email address
Dr Luofeng Xu	Course Convenor and Lecturer	03 940 8394	S156	Luofeng.Xu@ara.ac.nz
Dr Dipendra Ghimire	Moderator	03 940 8271	S158	Dipendra.Ghimire@ara.ac.nz
Mehdi Asgarkhani	Academic Manager	03 940 8126	S156b	Mehdi.Asgarkhani@ara.ac.nz

Please email your lecturer directly to organise an appointment.

Wātaka - Timetable

- Timetable information is available to all learners through MyAra Calendar & Timetable.
- Noticeboards – Ground floor S Block opposite S153 and Second floor S Block opposite S256.

Kā rauemi kia tirohia – Required texts and resources

- Required Text - None
- Learning and Study Resources – to assist you in your study
- Learning and Study Resources – to assist you in your study Library - Ara
- Moodle – for course resources Ara Moodle: Log in to the site

Kā Pukapuka Āwhina Tauira - Reference to Student Handbooks

We recommend that you read your Programme handbook in conjunction with the Student Information Handbook (available on MyAra) which has more detailed information about support and services available to learners at Ara.

Whakamāramataka – Course descriptor

Best Programming Practices (C# .NET) BCDE222

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

No	*Assessment Type*	*Pass Criteria*	*Weighting*	*Outcomes Assessed*
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.

Kā Aromatawai - Assessments

Assessment	Brief	Week of	Weighting
Practical Assessment 1	Exercises to ensure that the learner 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: Assessment submission details will be advised.

Kā tūmahi aromatawai – Assessment tasks

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.

Kā paearu – Assessment criteria / Marking schedule

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.

Maramataka – Course schedule

Week	Commencing	Topic	Notes
1	24 July	Introduction to Visual Studio, Hello World, variables & data types, basic syntax, control structures (i.e., sequencing, selection & iteration), architectural issues	
2	31 July	Language fundamentals: classes, interfaces, constructors, access modifiers, String interpolation	
3	7 August	More fundamentals: inheritance, overloading, overriding, shadowing, generics	
4	14 August	Exception handling, debug, assertion, File I/O, structs, enums	
5	21 August	Properties, Indexers, collections	
6	28 August	Unit test	
7	4 September	Assessment support	
8	11 September	UI	**Assessment #2 due**
Graduation Day Friday 15 September Please check with your tutor if you have class			
9	18 September	UI	
Term Break Monday 25 September – Friday 6 October			
10	9 October	UI	
11	16 October	LINQ, Entity framework	
No Classes Monday 23 October – Labour Day Holiday			
12	23 October	Delegates, Lambda expression, web services	
13	30 October	Assessment support, version control	
14	6 November	Assessment support, course revision	
15	13 November	Study Week	**Assessments #1 & #3 due**
No Classes Friday 17 November Show Day Holiday			
16	20 November	Exam Week	
17	27 November	Exam Week	

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