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 (Java)
BCDE223

Semester One, 2022

Ara
Institute of Canterbury
Ara rau, taumata rau

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 Co-ordinator and Tutor	03 940 8394	S156	Luofeng.Xu@ara.ac.nz
Dr Dipendra Ghimire	Moderator	03 940 8271	S153	Dipendra.Ghimire@ara.ac.nz
Mehdi Asgarkhani	Academic Manager	03 940 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

- The main source of information is the official Oracle Java 8 tutorials at https://docs.oracle.com/javase/tutorial/ . This will be supplemented by reference to the documentation for latter Java releases as where relevant.

- For the Java Android development portion of the course the main source of information is https://developer.android.com/docs.

- 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://ebsportal.ara.ac.nz/

Reference to Student Handbooks / Kā Pukapuka Āwhina Tauira

Learners should obtain a copy of the following:

- Ara Institute of Canterbury Ltd Enrolment Guide
- Programme Handbook

Each of these contains information for learners 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 (Java) BCDE223

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 produce commercially viable software to an industry-recognised standard.

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, packages, generics, number and string, annotations
- Java standard libraries: exception handling, collection classes, I/O streams, concurrency, regular expressions, unit testing, XML web services
- Multi-developer projects
- Android development

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.

Assessments - Kā Aromatawai

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.	Week 09	25%
Practical Assessment 2	Plan, design, code, and test 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 quality meet requirements.	Week 17	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 BCDE223 Moodle site.

Course schedule - Maramataka

Week	Commencing	Topic	Assessments
1	21 February	Course overview, Java core syntax, architectural issues	
2	28 February	Java class design	
3	7 March	Java data types, assertions	
4	14 March	Collections, exceptions	
No classes Monday 21 March – Otago Anniversary (Oamaru Campus ONLY)			
5	21 March	Testing framework	
Graduation Day Friday 25 March Please check with your tutor if you have class			
6	28 March	Assessment support	
7	4 April	Assessment support	
8	11 April	Assessment support	**Assessment #2 due**
No Classes Friday 15 April – Good Friday			
Term Break Monday 18 April – Friday 29 April			
9	2 May	Android core	**Assessment #1 due**
10	9 May	Android user interface	
11	16 May	Android data management	
12	23 May	Android debugging	
13	30 May	Android testing, assessment support	
No Classes Monday 6 June – Queen's Birthday Holiday			
14	6 June	Assessment support, course revision	
15	13 June	Study Week	
16	20 June	Exam Week	
No Classes Friday 24 June – Matariki Holiday			
17	27 June	Exam Week	**Assessment #3 due**

Note: The schedule outlined above is indicative of topics and activities throughout the semester. If necessary, there may be changes to the schedule outlined above, of which learners will be advised appropriately.