Te Hoe Hōkai Pakihi
Department of Business and Digital Technologies

Bachelor of Information and Communication Technologies

Course outline for

Database Administration
BCDE214

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
Amit Sarkar	Course Convenor and Tutor	940 8495	S157	Amit.Sarkar@ara.ac.nz
Alister Macgregor	Moderator	687 1874	TC216	Alister.Macgregor@ara.ac.nz
Rob Oliver	Tutor	940 7598	S157	Robert.Oliver@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

- No Required Text Books
- Recommended Reading – DuBois, Paul (2014) MySQL (5th ed.)
- 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 Tauira

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

Database Administration BCDE214

Credits	15	*Level*	6
EFTS	0.1250	*Grade Scale*	G29aa
Notional Learning Hours	150	*Work Integrated Learning*	30
Effective from	January 2019	*Date of this version*	February 2018
Pre-requisites	BCDE103		
Co-requisites	Nil		

Aim

To enable students to install, configure, upgrade, administer, monitor and maintain databases to meet typical organisational data storage and retrieval requirements.

Learning outcomes

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

1 Apply knowledge to install and configure/reconfigure databases and perform reverse and forward engineering.

2 Apply knowledge to investigate problems, collect performance statistics, and create reports.

3 Apply knowledge of query optimisation techniques to improve database performance.

Indicative curriculum

- The role of Database Administrator
- Database configuration including installing and upgrading software and maintaining relevant documentation
- Monitoring database activity and resource usage
- The issues involved in the web access of a database
- Setting up database users and granting permissions
- Import and export of data
- Backing up a relational database

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	SQL Test	27 September in class – 2 hours	25%
Practical Assessment 2	Problem Solution Assignment	23 August, with intermediate dates to be provided	25%
Portfolio	Ongoing portfolio	8 November, with intermediate dates to be provided	50%

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

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 BCDE214 Moodle site.

Course schedule - Maramataka

Week	Commencing	Topic
1	26 July	Data Privacy and GDPR Refresher ERDs/Data types
2	2 August	Advanced Topics on Normalisation, denormalization and Optimization Refresher SQL – Views/Joins/Queries Test Driven Development
3	9 August	Security and Roles Test Driven Development Advanced SQL – Grouping, Subqueries, Unions/Missing Data **Assignment 1 Iteration 1 due**
4	16 August	Backup, Restore and Scheduling Triggers Stored Procedures (1) **Assignment 1 Iteration 2 due**
5	23 August	Stored Procedures (2) Transactions and Cursors **Assignment 1 Iteration 3 due**
6	30 August	Query optimization/Indexes/Execution Plans
7	6 September	Data Import/Validation/Cleansing/Missing Data Data Export Aggregate/Temporal/Spatial/Advanced Data Types
8	13 September	SQL Summary/Practice Test Aggregate/Temporal/Spatial/Advanced Data Types
Graduation Day Friday 17 September Please check with your tutor if you have class		
9	20 September	Database admin – Reverse engineer Databases/Replication/Encryption Database admin - Resource optimization/Performance optimization DBA Roles **Portfolio Assignment Part A due**
10	27 September	**SQL Test 25% in class (2 hrs)** Database Install/Configure
Term Break Monday 4 October – Friday 15 October		
11	18 October	Database admin - Advanced User Issues e.g. Application roles, Web access, User logs Locking, Concurrency Control, Deadlock, Analytics **Portfolio Assignment Part B due**

No Classes Monday 25 October – Labour Day Holiday		
12	25 October	NoSQL
13	1 November	NoSQL
14	8 November	**Final Part of Portfolio Assignment Part C due**
No Classes Friday 12 November Show Day Holiday		
15	15 November	Study week – no formal class **All parts of Portfolio Assignment must be marked**
16	22 November	Exam Week – no exam
17	29 November	Exam Week – no exam

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