



MANUKAU
INSTITUTE OF
TECHNOLOGY
Te Whare Takiura o Manukau

BUSINESS AND INFORMATION TECHNOLOGY

MANUKAU CAMPUS

Te Wāhanga Whakaako Kaipakihi me te Hangarau Mōhiohio

564.683

Database Application Development

Quarter 2 2018 - Course Outline

Academic Staff and Class Details

Name: *Garry Singh*

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Office Location: *Level 3 academic staff space*

Class Sessions:

Lecture / Tutorial: *Monday* 1pm to 4pm Room 315

Lecture / Tutorial: *Wednesday* 8am to 11am Room 305

Manukau Campus Information Desk:

Floor 2, 8.30am to 5.00pm, Monday to Friday

Programme Administrator: Parizad Dumasias, 975 4617

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Every effort is made to ensure that the outline is correct at the time of publishing, however MIT reserves the right to make changes that may be necessary.

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COURSE PURPOSE

To design and develop a transaction management database applications using a mainstream platform and object library to present and manipulate data stored in a relational database, and to process data and generate reports.

LEARNING OUTCOMES (LOs)

LO1: Explain the usage context of the contents and architecture of a mainstream platform and object library;

LO2: Select and use appropriate objects to design and complete both front end and back end programming tasks of a multi-user database;

LO3: Manage database transactions in code and data integrity issues that occur in multi-user environments;

LO4: Create, test and debug a small commercially oriented program that uses bound and unbound visual components to support a GUI application;

LO5: Design and build reports that process and present data from multiple entities.

Graduate outcomes (that must be mastered at some stage before you graduate, and that are developed within this course):

1. Demonstrate an understanding of analytical, technical and theoretical concepts of Information Systems with an additional specialist understanding in at least one major area.
2. Demonstrate an understanding of software development principles and programming languages
3. Apply problem solving skills and design software algorithms
4. Analyse business processes and design software solutions to solve and improve them
5. Implement software solutions for at least two software platforms (such as web, mobile, desktop, and/or cloud, etc.)
6. Use a wide range of software application development tools
7. Use both front-end and back-end data manipulation technologies
8. Apply software verification and validation techniques to increase the quality of software products

LEARNING TIME

The total learning hours for this course are 150 hours (10 hours per credit).

For this course, it is expected that your learning time will be apportioned as follows:

In-class hours (including lectures, tutorials, seminars and workshops) = 48 hours

Online Canvas or other LMS activities = 24 hours

Independent reading and research = 16 hours

Collaborative / Group activities and discussion outside of class times = 24 hours

Graded Assessment activities (e.g., researching, analysis & writing) = 38 hours

CANVAS LEARNING MANAGEMENT SYSTEM

Canvas is MIT's online teaching and learning tool. It is available to you 24/7 and you will need to check it regularly for updates on your course information, assessments, course content, and to receive messages. Any mandatory activities on Canvas will be explained to you by your lecturer. You can access Canvas from your own device and any computer on campus for which you have a valid log-on by logging in at

<https://canvas.manukau.ac.nz> also refer to page 6.

COURSE MARKS

All course marks are available online via the Learner Portal <https://ebs4Portal-live.manukau.ac.nz> . If you have any queries about course work marks you should discuss these with your lecturer. All final grades will be published via the Learner Portal online only within 10 working days from the course end date.

In many courses, marks for individual assessments are also made available via Canvas once marked. Please note that these marks are provisional only and as such are only intended to give you guidance on your progress. The Learner Portal is the only official source for the final marks and grades you are awarded for a course.

ASSESSMENT STRUCTURE

Assessment Type	Learning Outcome Assessed	Due date & submission method	Weighting
Project Part A	1 - 4	Week 5, Friday Via Canvas	60%
Lab Test	4	Week 7, Wednesday Via Canvas	20%
Project Part B	5	Week 7, Monday Via Canvas	20%

To pass this course you must achieve a total combined mark of (50%)

Further details concerning the above assessments will be provided via Canvas at an appropriate time. It is your responsibility as a student to monitor Canvas for assessment related announcements and documents.

It is strongly recommended that you keep a copy of all assessments that you submit, together with evidence of when it was submitted and how.

International Students

International students studying or intending to study at MIT have dedicated support staff to assist with the applications' process, student visas/permits issuing and renewal, medical and travel insurance claims, accommodation, pastoral care, and day to day study issues. For more information go to:

<https://www.manukau.ac.nz/international-students>

COURSE SCHEDULE: QUARTER 2

Week	Date	Topics	Activities, Readings, & Assessment Tasks Activities
1	7 May	Course Outline Introduction to ADO.NET framework Revision of Database Concepts Design database for a business case study <ul style="list-style-type: none">Database tables with Keys, check constraints and proper primary and foreign keys relationship	Introduction to the course, course outline and resources <ul style="list-style-type: none">LectureExercises (check week 1 on Canvas)
2	14 May	User Interface Design with WPF <ul style="list-style-type: none">Layout Controls-Stack, Grid, Canvas, Dock and Wrap ControlsListBox controlsCombo BoxThe menu controlsUser controls	<ul style="list-style-type: none">LectureExercises (check week 2 on Canvas)
3	21 May	WPF with Database Introduction to Entity Framework (ORM framework) <ul style="list-style-type: none">Database first approachCode First ApproachDataModelDataContext	<ul style="list-style-type: none">LectureExercises (check week 3 on Canvas)
4	28 May	Test preparation Test	<ul style="list-style-type: none">ExercisesTest (check week 4 on Canvas)

5	4 June	(Queens Birthday – Monday) Data access layer <ul style="list-style-type: none"> • Entity Model classes • Custom entity classes Linq Query: FindFirstorDefault and Where clause	<ul style="list-style-type: none"> • Lecture • Exercises • Project-part a due (check week 5 on Canvas)
6	11 June	Business Logic Layer <ul style="list-style-type: none"> • Data Validation • Use of Collection for data validation Object oriented concepts	<ul style="list-style-type: none"> • Lecture • Exercises • Project-part b due (check week 6 on Canvas)
7	18 June	Business Logic layer cont. <ul style="list-style-type: none"> • Use of interface for light weight object binding • Database transaction management and integrity 	<ul style="list-style-type: none"> • Lecture • Exercises • Project-part b due (check week 7 on Canvas)
8	25 June	Recovery	

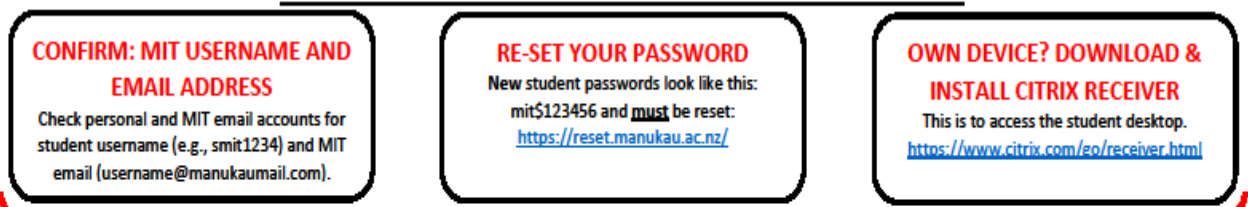
The order of topics may change. Notice of changes will be given in class and on Canvas.

ACADEMIC REGULATIONS AND POLICIES

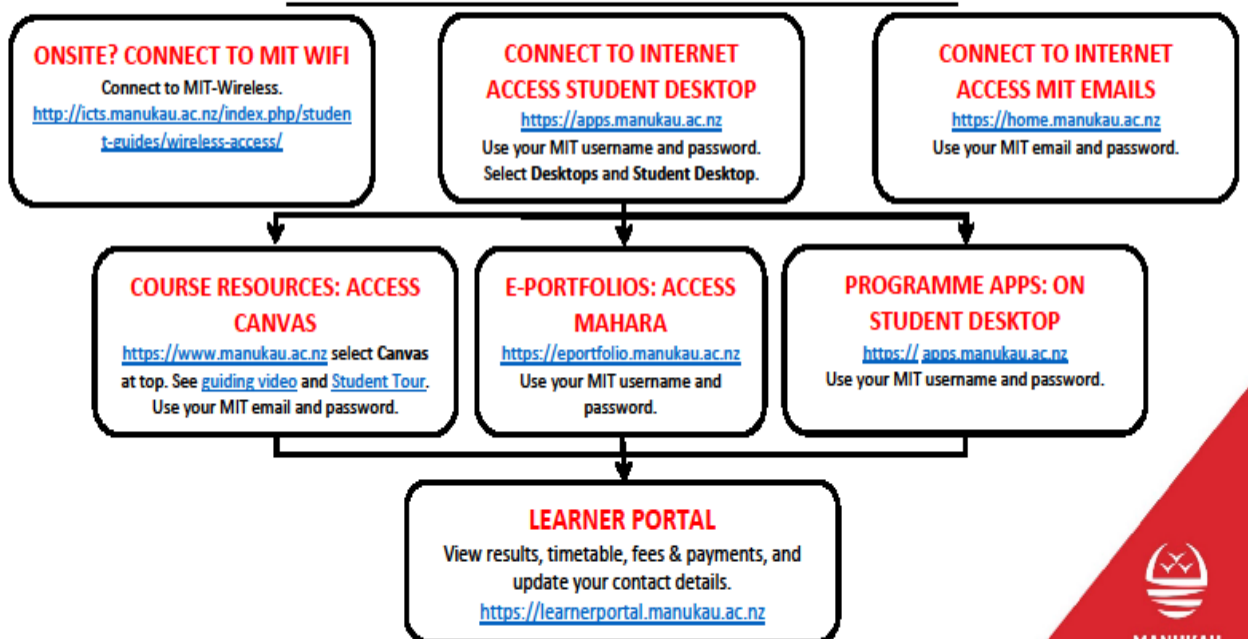
Students are strongly advised to read the www.manukau.ac.nz/FBIT-Handbook and the [MIT Student Regulations](#) for details concerning:

- Your rights and responsibilities (Student handbook)
- Attendance (Student regulation 9 MIT Student Regulations)
- Aegrotats (Student regulation 12.12 MIT Student Regulations)
- Anti-harassment policy (Student regulation 18 MIT Student Regulations)
- Complaints (Student regulation 19 MIT Student Regulations)
- Misconduct, cheating and disciplinary proceedings (Student regulation 13, MIT Student Regulations)
- Assessment Extensions (Student handbook)
- APA referencing <http://library.manukau.ac.nz/apareferencing>

DIGITAL LEARNING AT MIT: FIRST TIME ACCESS



DIGITAL LEARNING AT MIT: ONGOING ACCESS



For Help: <http://icts.manukau.ac.nz/index.php/student-guides/>
Useful Links: <https://www.manukau.ac.nz/student-life/useful-links>