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 Dumasia, 975 4617
parizad.dumasia@manukau.ac.nz

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 • Database tables with Keys, check constraints and proper primary and foreign keys relationship	Introduction to the course, course outline and resources • Lecture • Exercises (check week 1 on Canvas)
2	14 May	User Interface Design with WPF • Layout Controls-Stack, Grid, Canvas, Dock and Wrap Controls • ListBox controls • Combo Box • The menu controls • User controls	• Lecture • Exercises (check week 2 on Canvas)
3	21 May	WPF with Database Introduction to Entity Framework (ORM framework) • Database first approach • Code First Approach • DataModel • DataContext	• Lecture • Exercises (check week 3 on Canvas)
4	28 May	Test preparation Test	• Exercises • Test (check week 4 on Canvas)

5	4 June	(Queens Birthday – Monday) Data access layer • Entity Model classes • Custom entity classes Linq Query: FindFirstorDefault and Where clause	• Lecture • Exercises • Project-part a due (check week 5 on Canvas)
6	11 June	Business Logic Layer • Data Validation • Use of Collection for data validation Object oriented concepts	• Lecture • Exercises (check week 6 on Canvas)
7	18 June	Business Logic layer cont. • Use of interface for light weight object binding • Database transaction management and integrity	• 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