



MODULE NAME:	MODULE CODE:
PROGRAMMING 2B	PROG6212

ASSESSMENT TYPE: ASSIGNMENT 3 (PAPER)

TOTAL MARK ALLOCATION: 100 MARKS

TIME ALLOWANCE: 15 HOURS

TOTAL PAGES: 4

TOPIC: LEARNING UNIT 3: WORKING WITH DATABASES

STUDENT NAME:

STUDENT NUMBER:

INSTRUCTIONS:

1. ***No more than 25% of the assignment may be copied from original source(s) used, even if referenced correctly.***
2. *This is a practical assignment.*
3. *Assignments must be created using Microsoft Visual Studio 2010 and saved as appropriately named C# files.*
4. *Insert comments in your code which will identify you by name and student number.*
5. *All work must be adequately and correctly referenced. Code segments copied directly from a source must be referenced.*
6. ***Ensure that you follow good programming coding standards.***
7. ***This is a non-specific assignment; therefore, marks will be awarded for creativity and effort given.***
8. *This is an individual assignment. All work must be your own work.*
9. ***Make a copy/backup of your assignment before handing it in.***
10. *Follow all instructions on the assignment cover sheet.*

Assignment three has been set to demonstrate your C# programming abilities. You are required to use your knowledge of at least chapters one to fourteen in the prescribed text book with the emphasis on chapter fourteen. In other words, ensure that you demonstrate your understanding of databases and the implementation of databases in C#.

Please note that when completing your assignment, you are required to use internationally accepted coding standards (see page 112 in the prescribed textbook). Include comprehensive comments explaining variable names, methods and the logic of your programming code. Document your application thoroughly. Although you are not required to submit system documentation with this assignment, you are required to submit it with your Portfolio of Evidence. It would make good sense to create this documentation while you are in the process of developing the application.

The types of system documentation you should at least consider are:

- Description of the system (Describe the business problem and how it can be solved using a database system (Maximum 5 pages) to be submitted with your PoE);
- System and program flowcharts for your suggested solution;
- UML diagrams;
- A printout of the test data in the database;
- Help files/ user guides for the system.

Application Specifications	(Marks: 100)
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Choose any problem that can be solved using a C# application that accesses a database:

- Design the database required for your system. Your database should contain at least 2 tables but you may use as many as is necessary for your application;
- You may use an MS Access database or a SQL Server database;
- Populate the database with data. (Ensure that when you submit your assignment that you include copies of this data and the database can be located by your lecturer. Provide the access path where the database is located as part of your documentation);
- The database must consist of records. E.g. in a Book table, the records contain book details.

In summary your application must do the following:

- Create and populate a MS Access or SQL Server database;
- Use the ADO.NET classes;
- Retrieve data from a database using the “DataReader” class;

- Access and update databases using the “Dataset”, “DataAdapter” and “TableAdapter” classes;
- Retrieve and manage data using SQL statements;
- Your application must make use of GUI forms for the user to interact with the application;
- Give the user a minimum of two (2) report options that can be created by accessing data from the database;
- Use exception handling. Make use of MessageBoxes to display error messages.

Ensure that you have covered all items listed in the marking rubric below. The mark assigned will follow the following sliding scale:

- 0 Mark -Not completed/ not submitted;
- 1 Mark -Attempted but incorrect;
- 2 Marks -Attempted, logic/ process in the correct direction;
- 3 Marks -Logic/ process correct;
- 4 Marks -Logic/ process and coding correct;
- 5 Marks -Excellent, Logic/ process correct and coding correct and efficient. Student has gone above and beyond specified requirements.

Marking Guidelines

Criteria	Possible mark	Mark awarded
Good coding standards		
• Comments/ code readability throughout C# code;	5	
• Efficient code (no redundancy).	5	
Subtotal	10	
Database		
• Creation of at least one (1) database;	5	
• Database contains at least two (2) tables;	5	
• Database is initially populated with some data.	5	
Subtotal	15	
Reports		
• Creation of at least two reports;	5	
• Report in correct format (columns aligned with headings).	5	
Subtotal	10	

Application <ul style="list-style-type: none"> • Uses the ADO.NET classes; • Retrieves data from a database using the “DataReader” class; • Accesses and updates the database using the “Dataset”, “DataAdapter” and “TableAdapter” classes; • Retrieves and manages data using SQL statements; • Error messages in MessageBoxes. 	5 2x5 3x5 2x5 5	
Subtotal	45	
Other Marks <ul style="list-style-type: none"> • Student’s application is user-friendly and incorporates good aesthetic design; • Creative application; • Student has used advanced features not covered in class. 	5 2x5 5	
Subtotal	20	
Total	100	

[TOTAL MARKS: 100]