COURSE OUTLINE

MTS-COM-212 Object-Oriented Programming

MTS 2

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Department of Computer Science and Information Systems

2023-2024 Academic Year

Module Outline

1. Module Code and Name

Module code	MTS-COM-212
Module title	Object Oriented Programming

2. Module Description

The module introduces students to basic concepts of the object-oriented programming paradigm

3. Learning outcomes

On completion of this module the student should be able to:

a) Describe the concepts involved object-oriented programming
b) Write computer programs that use features of a modern object-oriented programming language

4. Module syllabus

Topic	**Contents/ fundamental concepts**
Introduction to OOP	• Object oriented programming vs. procedural programming
Introduction to OOP	• Definition of object-oriented programming, object orientation as a new paradigm
Object-oriented programming fundamentals	• classes, objects, inheritance, class hierarchies, polymorphism, abstract and interface classes
Fundamentals of objects and classes	• class members and instance members, access control, creating and destroying objects

Object-oriented methodology for analysis and design	• object-oriented analysis, object-oriented design, the Unified Modelling Language (UML) class diagrams
Principles of object-oriented programming	• encapsulation and information hiding, separation of behaviour and implementation, interface and implementation
Concurrent Programming:	• processes • threads

5. Module components (Learning activities)

Learning Activities	**Allocated Time**
Lectures	• Meetings for 2 hours per week
Lab work	• Lab work for 6 hours per week (2 contact hours)
Group discussions	• Group work for 2 hours per week
Case studies	• Case studies for 2 hours per week

6. Assessment type

SN	**Assessment type**	**Percentage**
1	Group assignments	15%
2	Individual assignments	15%
3	Mid-semester examination	20%
4	End of semester examination	50%

7. Required and recommended readings

Required readings:	Deitel H.M. & Deitel P.J. (2021). *Java : How to Program* (11th ed.). Pearson

Recommended readings:

8. Feedback for evaluation

Key evaluation strategies

- Group meetings with class representatives
- Forum for the questions and answers
- End of semester students' evaluation questionnaire by HAQA

9. Module schedule

Wk.	Date(s)	Topic/Activity	Requirements
1	29th Jan – 2nd Feb	• Introducing the module • Forming groups • Discussing Group Assignment 1 (Research)	Classroom with Computers
2	5th – 9th Feb	• Object oriented programming vs. procedural programming	
3	12th – 16th Feb	• Definition of object-oriented programming, object orientation as a new paradigm	
4	19th – 23rd Feb	• classes, objects, inheritance, class hierarchies, polymorphism, abstract and interface classes	Classroom with Computers

5	26th Feb – 1st Mar	• class members and instance members, access control, creating and destroying objects	Classroom with Computers

6	4th – 8th Mar	• Mid-semester examination • Discussing Group Assignment 1 (Practical)	
7	*11th – 15th Mar*	*Midsemester Break*	
8	18th – 22nd Mar	• object-oriented analysis, object-oriented design	Classroom with Computers
9	25th – 29th Mar	• the Unified Modelling Language (UML) class diagrams	
10	1st – 5th Apr	• encapsulation and information hiding	
11	8th – 12th Apr	• separation of behaviour and implementation, interface and implementation	Classroom with Computers
12	15th – 19th Apr	• processes • threads	
13	22nd – 26th Apr	• processes • threads	
14	29th Apr – 3rd May	• Discussing Group Assignment 2 (Practical)	

10. Contact details for lecturer(s)

Lecturer's Name	Ramsy Johnstone Banda
Office Location	ODeL Building Room 405
Telephone	0881 20 86 62
Email	rbanda@mubas.ac.mw
Teaching Venue	Check on timetable.mubas.ac.mw

11. Details of module website

None

12. Academic honesty and plagiarism

Please not that all group and individual assignments will be submitted through the Turnitin (www.turnitin.com)

“Attention is drawn to MUBAS Academic Integrity Policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such a policy and regulations.”