


AMOU UNIVERSITY
“A Vehicle for Peace and Development”
AMOU UNIVERSITY



FACULTY OF COMPUTING AND ICT

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY PROGRAMME

ACADEMIC YEAR 2015/ 2016

COURSE DESCRIPTION

BIT 312	Object Oriented Programming (C++)
Contact Hours	52
Pre-requisite	BIT 225 Programming Methodology(C)
Purpose/Aim	The main aim of this course is to help the student understand the concepts and principles behind object-oriented development and gain the programming skills required to develop object-oriented software.
Course Objective (Indicative Learning Outcomes)	<ul style="list-style-type: none"> • By the end of the unit the student should: • Describe the Evolution of Object Oriented Programming Languages up to today. • Explain key Concepts and terminology; abstraction, encapsulation, Inheritance, polymorphism, classes, objects, methods, messages • To demonstrate an understanding of Object Oriented concepts • To apply Object Oriented concepts using a selected Language
Course Content	<ul style="list-style-type: none"> • Evolution of Object Oriented Programming Languages • Introduction to Object Technology: Concepts and terminology; abstraction, encapsulation, Inheritance, polymorphism, classes, objects, methods, messages • Review an OOP Language for example C++ or Java • Object Oriented programming in a selected Language; Abstract Data Types and Classes, Single and Multiple inheritances, Overloading, Polymorphism, Dynamic Binding, Generality and Composition, Object Class Libraries. <p>Lab 1 Write programs to test student understanding of basic concepts like Variables, Operators, Expressions, Statements, and Blocks</p> <p>Lab 2 Building on concepts studied above to implement abstract data types like classes</p> <p>Lab 3 Students learn how to instantiate classes i.e. create objects.</p> <p>Lab 4</p>



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	Explore the concepts of constructors including default, copy, and parameterized constructors. Including destructor		
	Lab 5 Students learn how to overload methods and the concept behind it		
	Lab 6 Exploration of inheritance, polymorphism		
Learning & Teaching Methodologies	Lectures, tutorials and planning exercises		
Instructional Materials/Equipment	Classroom with audio visual aids Computer laboratory		
Course Assessment	Type	Weighting (%)	
	Final Examination	60	
	Mid Term Examinations	20	
	Continuous Assessment(Assignments)	10	
	Attendance	10	
	Total	100	
Recommended Reading	Title	Author	Publisher
	Object-Oriented Programming with C++	Balagurusamy, E.	Tata McGraw Hill (2003)
Additional Reading	Object-oriented Programming	Bhave Patekav, S A	Pearson education (2004)
	Object Oriented Programming in C++, 3rd Edition	S.B.Lippman and J.Lajoie,	Pearson Education.(2008)
Other Support Material	A variety of multimedia systems and electronic information resources as prescribed by the lecturer. Various application manuals and articles, URL search and journals.		