



كلية الشرق الأوسط
Middle East College

Middle East College

Muscat, (Sultanate of Oman)

Validated Programme Leading to the Award of:
BSc (Hons) Software Technology

1. ESSENTIAL QUALITIES AND ATTRIBUTES OF THE PROGRAMME'S GRADUATES

With the growing demand for software professionals of high quality, there is a need to offer programmes that will prepare students in this field. This programme aims at equipping the students with knowledge and skills that are important and relevant to different areas of software Technology. Additionally, the programme provides knowledge and skills in computer architecture, the basics of electrical engineering, networking and databases.

2. RATIONALE FOR THE PROGRAMME

Software development is considered an important and often essential component of information technology. Rapid advancements in software are necessary to allow innovation in the design of hardware to be exploited to its full potential. The programme in software technology is designed to include modules that are relevant to the current trends in the areas of software technology, design and development, and which are useful in the development of modern applications.

Software development has evolved from being a specialized computer application to become a central component of a modern computing environment. As a result, knowledge about software program development has become an essential part of an education in computer science. Software plays a critical role in all areas where computer systems are used, including business, engineering, medicine, law, education and library sciences.

The curriculum is constructed to meet the demands of a global market. Students will be in a position to not only address the technical challenges arising from the IT industry but also to identify and respond to the applications requirements of business and industry. This degree programme prepares students for a career in software design and development with an emphasis on requirements analysis, quality assurance, coding, testing, configuration management and maintenance.

The programme is based on two components –theory and practice. These components complement each other in such a manner that the student gets a mix of concepts and access to modern technological tools. The curriculum includes a study of database design, data communication, procedural and object oriented programming paradigms, operating system concepts, and algorithm development.

Graduates will be qualified to work in a range of positions from entry level programming to lead information system analysts. This programme will provide the skills that students need to successfully design and develop distributed business applications. The outcomes expected at each level of study are based on the best international practice. Assessments for every module are designed to allow the students to fully demonstrate their achievement of the learning outcomes.

BSc (Hons) - Software Technology													
	Year 1	CU Level	C.P	Year 2	CU Level	C.P	Year 3	CU Level	C.P	Summer	Year 4	CU level	C.P
Fall Semester	College Mathematics	0	10	Discrete Mathematics	1	10	ELECTRONICS ENGINEERING	1	15	INTERNSHIP	Omani Studies	0	10
	Programming Logic Development	0	10	Business Communication	0	10	FUNDAMENTALS OF COMPUTER NETWORKS	1	15		SPECIAL TOPIC / SYSTEMS PROJECT MANAGEMENT	3	15
	English for Special Purpose	0	10	FUNDAMENTALS OF RELATIONAL DATABASE MANAGEMENT SYSTEM	2	15	Software Quality Assurance	2	10		DATABASE ADMINISTRATION	3	15
	FUNDAMENTALS OF COMPUTER HARDWARE	0	15	Object Oriented Paradigm	1	10	Object Oriented Design using UML	2	10		System Software	3	10
	ELECTRICAL ENGINEERING	0	15	ELECTIVE - I	1	15	Data Structures and Algorithms	2	10		Project Planning	3	10
				60		60			60				60
Spring Semester	Calculus and Numerical Methods	1	10	Front End Technologies	1	10	Business Environment	0	10		Database Security	3	10
	Probability and Statistics	0	10	Object Oriented Programming	1	10	COMPUTER ARCHITECTURE	2	15		Data Warehousing	3	10
	Introduction to Internet	0	10	Software Engineering	1	10	Internet Programming	2	10		ELECTIVE - III	3	10
	SYSTEM ANALYSIS AND DESIGN	1	15	Operating Systems	2	10	Advanced Object Oriented Programming	2	10				
	INTRODUCTION TO PROGRAMMING	0	15	PROJECT - I	2	20	ELECTIVE - II	2	15	Project Design and Implementation	3	30	
			60		60			60			60		
	Certificate in Computing			Diploma in Software Technology			Advanced Diploma in Software Technology			BSc (Hons) in Software Technology			
WHITE	10	COLLEGE REQUIREMENT				Level 0		125					
TURQUOISE	10	DEPARTMENTAL REQUIREMENT				Level 1		120					
YELLOW	13	MAJOR ELECTIVES				Level 2		125					
RED	2	PROJECT				Level 3		110					
LAVENDAR	4	ELECTIVES						480					
	39					Level 2+Level 3		235					

3. PROGRAMME LEARNING OUTCOMES

On successful completion of the programme, students should be able to:

1. demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to software technology.
2. deploy appropriate theory, practices and tools for the specification, design, deployment and marketing of software.
3. evaluate software in terms of general quality attributes and assess the extent to which it meets the specification for its current use and future development.
4. present succinctly to a range of audiences (orally, electronically or in writing) rational and reasoned arguments that explain the construction, application and value of a software product.
5. recognise the professional, commercial and ethical issues involved in the exploitation of software technology and be guided by the adoption of appropriate professional, ethical and legal practices.
6. work effectively as a member of a development team, recognising the different roles within a team and different ways of organising teams.

Transferable skills form an integral part of most modules. Self-directed learning and the necessity to work within tight deadlines are essential requirements in all parts of the curriculum. A variety of assessment techniques will ensure that students are given every opportunity to demonstrate skills in these areas.

4. PROGRAMME LEARNING OUTCOMES and CORE MODULES MAPPING

MODULE	1	2	3	4	5	6
Introduction to Internet		x				
Programming Logic Development	x	x				
Fundamentals of Computer Hardware	x					
Electrical Engineering	x					
System Analysis and Design	x			x	x	
Introduction to Programming	x	x				
Fundamentals of RDBMS	x		x			
Front End Technologies	x	x	x			
Object Oriented Paradigm	x	x	x			
Object Oriented Programming	x		x			
Software Engineering	x	x	x			
Data Structures and Algorithms	x		x			
Project 1		x		x	x	x
Electronics Engineering	x					
Fundamentals of Computer Networks	x					
Software Quality Assurance		x	x			
Advanced Object Oriented Programming	x	x	x			
Operating Systems	x					x
Computer Architecture	x					
Internet Programming	x	x				
Object Oriented Design using UML	x		x			
Systems Project Management		x		x	x	x
Database Administration					x	x
System Software	x	x	x			
Database Security					x	
Data Warehousing					x	x
Project Planning	x	x	x	x	x	x
Project Design and Implementation	x	x	x	x	x	x

