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“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 326	Local Area Networks	
Contact Hours	52	
Pre-requisite	N/A	
Purpose/Aim	<p>This course covers Fundamental concepts of Local Area Network architecture and protocols. Emphasis is on basic concepts needed to design, configure, and implement Local Area Networks. It also emphasizes on the evolution of Ethernet, Fast Ethernet, Gigabit Ethernet, ATM and wireless LANs (WiFi). Topics include gaining practical experience with subnetting, the use of IP addresses, and the fundamentals of IP routing.</p> <p>Other topics include understanding networking topologies, to introduce the OSI Model and the IEEE 802 standards.</p> <p>The course also covers definition and understanding of basic Data Communications.</p>	
Course Objective (Indicative Outcomes)	Objective Learning	<ul style="list-style-type: none"> • Students shall develop an understanding of basic Data Communications, networking topologies, the OSI Model and the IEEE 802 standards. • Students shall observe the installation and use of various networking platforms from the SPX/IPX and TCP/IP environment. • Student shall develop skills in IP subnetting, and understand the use of IP addresses, and the fundamentals of IP routing. • Through the integration of data communications, topologies, IEEE 803 standards, networking platforms, and subnetting, students shall develop a basic background of the components of a modern computer network.
Course Content	<ul style="list-style-type: none"> • Local Area Networks • Wireless LANs (WiFi) • LAN Models • LAN Applications • OSI Model • TCP • IP • IEEE LAN Standards • Data Transmission • Transmission Media • Error Detection 	



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	<ul style="list-style-type: none"> • LAN Topologies • Error Control • Flow Control • Medium Access Methods • Logical Link Control (LLC) • Ethernet • Fast Ethernet • Gigabit Ethernet • LAN Performance • Routing and Switching • Security • Network Management 		
Learning & Teaching Methodologies	Lectures, tutorials and Computer Network Laboratory exercises		
Instructional Materials/Equipment	Classroom with audio visual aids Computer laboratory		
Course Assessment	Type	Weighting (%)	
	Final Examination	60	
	Mid Term Examination	20	
	Assignment	10	
	Attendance	10	
	Total	100	
Recommended Reading	Title	Author	Publisher
	Understanding the Internet: A Clear Guide to Internet Technologies	Keith Sutherland	Butterworth-Heinemann (2001)
Additional Reading	The Internet	Onunga J.	Information Systems Academy (1998)
	Hands-On Networking with Internet Technologies	Douglas E. Comer	Prentice Hall
Other Support Material	A variety of multimedia systems and electronic information resources as prescribed by the lecturer. Various application manuals, URL search and journals.		