

DEREE COLLEGE SYLLABUS FOR:		3/0/3
ITC 4827 NETWORKING CAPSTONE PROJECT (Previously ITC 4627) (Updated Spring 2016)		UK LEVEL 6 UK CREDITS: 15
PREREQUISITES:	ITC 1070 LE Information Technology Fundamentals –or- CS 1070 Introduction to Information Systems MA 1008 College Algebra ITC 2088 Introduction to Programming ITC 3175 Introduction to Computer Networks ITC 3219 Network Administration ITC 3121 Computer Networks, Modeling and Analysis ITC 4142 Network Design MG/CS 4157 Project Management	
CATALOG DESCRIPTION:	Focus on the on the design of a reliable, secure, performance efficient, fault-tolerant network or network component. Step-by-step design, development and evaluation process.	
RATIONALE:	The module is the capstone experience for students following the Network Technologies pathway of the IT programme. Students are required to develop a complete networking solution or networking component to a given problem, based on the knowledge and the skills acquired during their studies. Moreover, students will gain the experience of working on a real-time basis and combine academic with professional practices, including domain-specific research, gradual progression, revisiting, and evaluation.	
LEARNING OUTCOMES:	As a result of taking this course, the student should be able to: <ol style="list-style-type: none"> 1. Evaluate several network and communication standards, protocols, architectures, and security strategies. 2. Analyze a problem including literature review. 3. Determine requirements in terms of hardware, communication protocols, security and authentication protocols, software technologies and maintenance. 4. Synthesize a complete solution. 5. Apply effective project management to plan their project and meet deadlines. 	
METHOD OF TEACHING AND LEARNING:	In congruence with the teaching and learning strategy of the college, the following tools are used: <ul style="list-style-type: none"> • Lectures and laboratory sessions. • A network-oriented project representing a complete solution to a given problem, in the form of a set of deliverables • Office hours held by the instructor to provide further assistance to students. • Use of the online content management system (Blackboard CMS) to further facilitate communication, by posting lecture notes, assignment instruction, announcements, and online submission. 	

ASSESSMENT:	Summative: <table border="1" data-bbox="630 170 1370 300"> <tr> <td data-bbox="630 170 1192 300">Networking Research Project: (Individual project involving literature review / analysis / design / development / testing / documentation)</td><td data-bbox="1192 170 1370 300">100%</td></tr> </table> <p>The networking research project tests learning outcomes 1-5</p>	Networking Research Project: (Individual project involving literature review / analysis / design / development / testing / documentation)	100%
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INDICATIVE READING:	REQUIRED READING: No textbook is required RECOMMENDED READING: All the indicative or recommended reading of the modules in Network Technologies pathway of the IT programme.		
INDICATIVE MATERIAL: (e.g. audiovisual, digital material, etc.)	REQUIRED MATERIAL: N/A RECOMMENDED MATERIAL: N/A		
COMMUNICATION REQUIREMENTS:	Daily access to the course's site on the College's Blackboard CMS. Use of word processing and/or presentation graphics software for documentation of assignments.		
SOFTWARE REQUIREMENTS:	<ul style="list-style-type: none"> • WireShark Protocol Analyser • VMWare • Network Simulator 2 For Mobile Networks • TCPdump • EDX® SignalPro® wireless simulator • WiFi mesh simulator-pro • Microsoft Windows 200x Professional, latest • Microsoft IIS, latest release • Microsoft Windows Server 200x, latest • Linux server version • Microsoft TechNet Library • Apache HTTP Server, latest release • Java and/or C programming languages • MySQL Server, latest release 		
WWW RESOURCES:	Servers: http://serverwatch.internet.com/articles/servertruths/index.html IBM networking products and technologies, technical support, documentation, partners, FAQs, and educational resources: http://www.networking.ibm.com/ Network magazine online: http://www.networkmagazine.com/ Site of Lucent Technologies, Cisco and 3Com: http://www.lucent.com http://www.cisco.com http://www.ecom.com		

	<p>Tutorials: http://www.lantronix.com/training/tutorials/</p> <p>Ethernet, 100Base-T, and Gigabit Ethernet Resources: http://www.ganymedesoftware.com/netlinks.phtml</p> <p>Networking protocols: http://www.protocols.com/pbook/</p> <p>3G4G Wireless Resource Center: www.3g4g.co.uk</p> <p>Mobile News: www.zdnet.com/topics/mobile?tag=mantle_skin;content</p> <p>Telecom Resources: www.answerconnect.com/articles/telecom-resources</p> <p>WiMax simulator tools http://www.wimaxcom.net/2007/10/wimax-simulation-tools-list.html</p>
INDICATIVE CONTENT:	N/A