

**Module Specification**

School and Subject Group		School of Engineering and Applied Science, Electronic Engineering																						
Module Code		EE403B																						
Module Title		Internetworking																						
Module Type		Taught																						
Date of introduction of new module		2001																						
Level	7	Credit Value	10																					
Programme(s) in which module is available		MSc in Telecommunications Technology MSc in Telecommunications Technology (Distance Learning) MSc in Data Communications Networks MSc in Data Communications Networks (Distance Learning)																						
Involvement of Other Schools		None																						
Resource Split																								
Name of Module Co-ordinator		Keith J Blow																						
Name of Module Advisor		Dr. John A.R. Williams																						
Related Modules	Pre-requisites	None																						
	Co-requisites	None																						
	Prohibited Combinations	None																						
Minimum and Maximum Intake Sizes		None – None																						
<p><b>Aims of the Module</b>  To provide an understanding of the problems and solutions which arise from the need to provide networked communications as opposed to point to point links. The course will concentrate on the provision of networking in computer based networks and the students will gain an understanding of the issues in modern packet switched networks.</p>																								
<p><b>Summary of Content</b></p> <p><b>Networking Overview</b> The need for networks; Internet; network problems; resources.</p> <p><b>Reference Models</b> OSI layered model; relationship to TCP/IP</p> <p><b>Data Link Layer</b> Error control; framing; protocols; MAC sublayer; repeaters and bridges.</p> <p><b>Network Layer</b> Routing; congestion and flow control; internetworking.</p> <p><b>Transport Layer</b> Sockets and addresses; connection management; TCP and UDP; performance.</p> <p><b>Security</b> Public and secret key cryptosystems</p> <p><b>Application Layer</b> DNS; SNMP.</p> <p><b>ATM Networks</b> Six lectures given by Dr A Khan of Nortel Networks.</p>																								
Summary of Methods and Frequency of Teaching		<p><b>Tutorials</b> 3 hours. (by Email for distance delivery)</p> <p><b>Practicals</b> 9 hours.</p> <p><b>Lectures</b> 21 hours. Lectures or WebCT, ATM course by Dr. A. Khan (videod for distance delivery)</p>																						
<p><b>Summary of Methods of Assessment</b></p> <table border="1"> <thead> <tr> <th>Assessment Type</th> <th>Status</th> <th>%</th> <th>Requirements</th> <th>Due</th> </tr> </thead> <tbody> <tr> <td>Coursework</td> <td>Compulsory</td> <td>10.0</td> <td>Continual Assessment.</td> <td>11 Jan 2010</td> </tr> <tr> <td>Formal Examination</td> <td>Compulsory</td> <td>75.0</td> <td>Final Examination. 1.5hr formal examination</td> <td>14 Dec 2009</td> </tr> <tr> <td>Laboratory</td> <td>Compulsory</td> <td>15.0</td> <td>Laboratory Practical.</td> <td>03 Dec 2009</td> </tr> </tbody> </table>					Assessment Type	Status	%	Requirements	Due	Coursework	Compulsory	10.0	Continual Assessment.	11 Jan 2010	Formal Examination	Compulsory	75.0	Final Examination. 1.5hr formal examination	14 Dec 2009	Laboratory	Compulsory	15.0	Laboratory Practical.	03 Dec 2009
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Module Outcomes - what the student should gain from successful completion of the module:		Learning and Teaching and Assessment Strategies to enable outcomes to be achieved and demonstrated																						
		Learning and Teaching Methods	Assessment Methods																					

A. Knowledge and Understanding		Lectures, Practicals, Tutorials	Coursework, Formal Examination, Laboratory
the issues in modern packet switched networks			
B. Intellectual Skills			
C. Professional Skills		Practicals, Tutorials	Laboratory
apply their knowledge of the principles underlying modern data networks			
D. Transferable Skills			Coursework
the ability to reseach and condense technical information			
Please provide either or both of:			
(i) Introductory Learning Resources			
(ii) Core Texts		<ol style="list-style-type: none"> <li>1. <i>Main:</i>Tanenbaum A.S, "Computer Networks 3rd ed", Prentice Hall (1996) ISBN 0-13-349945-6</li> <li>2. D E. Comer, R E. Droms, "Computer Networks and Internets 2nd ed", Prentice Hall (1998), ISBN 0-13-083617-6</li> <li>3. J.E.Flood, "Telecommunications Switching", Traffic and Networks, Prentice Hall (1995), ISBN 0-13-033309-3</li> <li>4. Optical Networks, "A Practical Perspective by Ramaswami and Sivarajan", ISBN 1-55860-445-6</li> <li>5. D. E. Comer, "Internetworking with TCP/IP", Printice Hall, ISBN 0-13-018380-6</li> </ol>	
Reading Lists		Attached	
Specification completed by:		Dr. John A.R. Williams	
Date		22-Apr-2009	
Date module approved by Teaching Committee(s)			
Date module approved by School Board(s)			