Aston University REG/03/53(2)

Quality and Standards Committee

Module Specification

School and Subject Group		School of Engineering and Applied Science, Electronic Engineering	
Module Code		EE4017	
Module Title		Realtime Communication Networks	
Module Type		Taught	
Module Replaces (where appropriate)		EE403A	
Date of introduction of new module		2007	
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		Marc Eberhard	
Name of Module Advisor		P. Harper	
Related Modules	Pre-requisites	None	
	Co-requisites	None	
	Prohibited Combinations	None	
Minimum and Maximum Intake Sizes		None – None	

Aims of the Module

- To provide the student with specialised and detailed information relating to realtime communication networks
- To present the student with specialised and detailed information relating to quality of service concepts
- To introduce the student to the specific quality of service requirements for realtime and streamed audio, video and multimedia content

Summary of Content

Time division multiplexed (TDM) networks Network structures; national and international networks; analogue and digital transmission; manual, electro-mechanical and digital switching; space, time and packet switching;

Packet switched (PS) networks Carrier Class Ethernet, VLAN tagging, DiffServ, RTP

Quality of service (QoS) concepts Probability of blocking; non blocking networks; latency; jitter; packet loss; requirements for realtime and streamed audio, video and multimedia content; QoS parameter limits

Summary of Methods and Frequency of Teaching

Lectures 27 hours.

Tutorials 9 hours.

Directed Reading 18 hours. Directed reading, VLE usage, tutorial excercises and revision

Summary of Methods of Assessment

Assessment Type	*Status*	*%*	*Requirements*	*Due*
Formal Examination	Compulsory	100.0	Final Examination. 1.5hr formal examination	26 Mar 2010

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		
the network requirements to meet the needs of realtime and streamed continuous media	Directed Reading, Lectures, Tutorials	Formal Examination
B. Intellectual Skills		
C. Professional Skills		

apply their knowledge of the principles underlying modern data networks	Tutorials	Formal Examination
D. Transferable Skills		

Please provide either or both of:	
(i) Introductory Learning Resources	
(ii) Core Texts	R.L. Freeman, Telecommunication System Engineering, John Wiley & Sons Y. Zheng and S. Akhtar, Networks for Computer Scientists and Engineers, Oxford University Press
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)	