

Course Title	Network Applications	School	Mathematical and Computer Sciences				On or Off-Campus	On	
Course Co-ordinator	Hamish Taylor	SCQF Level	11	Course Code	F21NA	Semester	2	Credits	15

1. Pre-requisites	Either F28IT Internet and Communications and F27SB Software Development 2 or reasonable software development skills in Java and basic knowledge of data communications and the web								
2. Linked Courses (specify if synoptic)	None								
3. Excluded Courses	None								
4. Replacement Course	Code:		5. Availability as an Elective		Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	
	Date Of Replacement:								
6. Degrees for which this is a core course	Mandatory course for MSc Advanced Internet Applications, MSc Computing, MSc IT (Mobile Communications), MSc IT (Software Systems). Optional course for BSc Computer Science, MEng Software Engineering, MSc Computer Services Management, MSc Computer Systems Management, MSc e-Commerce, MSc IT(Business), MSc IT (Software Engineering), MSc Mobile Communications.								
7. Aims									
<ul style="list-style-type: none"> ◆ To equip students with knowledge and understanding of the theories, principles and protocols underlying network applications on the Internet ◆ To enable students to appreciate critically the range of network application technologies and standards ◆ To give students significant development skills in a range of the principal network technologies, to grasp the main design and practical issues faced in their application, and confer the ability to select and apply relevant techniques for a given network application development problem. ◆ To have students creatively develop in teams a substantial network application involving web and application server technologies to an original design of their own. 									
8. Syllabus									
Network application fundamentals, IPC via sockets, programming simple services, network information services. Email formats and protocols - RFC 2822, MIME, SMTP, POP, IMAP. Nature of web – URIs and HTTP, web markup languages - HTML, CSS, XHTML, web design issues. Client-side web programming - JavaScript, applets, DOM, DHTML, AJAX. Server side web programming – CGI, servlets, active web server pages – SSI, JSP, PHP. Web mediated database access – JDBC, PHP. Web security – HTTP authentication, cookies. 2 nd generation web services - SOAP and REST. Network security concepts, message digests, cryptography – symmetric and public key, digital signatures, certificates, CAs and SSL. Textual conferencing – IM, IRC.									

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9. Learning Outcomes (HWU Core Skills: Employability and Professional Career Readiness)

Subject Mastery	<p><i>Understanding, Knowledge and Cognitive Skills</i> <i>Scholarship, Enquiry and Research (Research-Informed Learning)</i></p> <ul style="list-style-type: none"> ◆ Extensive, detailed and critical knowledge and understanding of the theories, techniques and principles underlying the design of network applications and the range of their application ◆ Theoretical and practical knowledge of the major network application types including email, web applications and services, IRC, streaming media ◆ Critical awareness of protocols and standards underlying key network applications especially the web and of enabling technologies for network applications such as sockets, DNS, XML ◆ Ability to design and develop useful network applications including WWW applications using apt technologies and languages: XHTML, CSS, JavaScript, Java applets, CGI, servlets, active web server pages, SOAP services etc. to professional standards
Personal Abilities	<p><i>Industrial, Commercial & Professional Practice</i> <i>Autonomy, Accountability & Working with Others</i> <i>Communication, Numeracy & ICT</i></p> <ul style="list-style-type: none"> ◆ Skills in selecting, applying and evaluating apt technologies in a professional way given a problem requiring network interaction ◆ Ability to build on initial skills and knowledge by independent research using online resources ◆ Showing initiative, creativity and team working skills in shared network application development

10. Assessment Methods				11. Re-assessment Methods	
Method	Duration of Exam (if applicable)	Weighting (%)	Synoptic courses?	Method	Duration of Exam (if applicable)
Exam	2 hours	70%		Exam	2 hours
Coursework		30%			

12. Date and Version							
Date of Proposal	26/5/10	Date of Approval by School Committee	May 2010	Date of Implementation	13/9/2010	Version Number	3