Heriot-Watt University
[Module Templates](#) – [Module Syllabus](#)

[Module Title](#)	Communications and Networks			[School](#)	Engineering and Physical Sciences				[On or Off-Campus](#)	On Campus
[Module Co-ordinator](#)	Cheng-Xiang Wang			[Level](#)	11 (SCQF)	[Module Code](#)	B39QE	[Term](#) 1	[Credits](#)	12 SCQF

Any changes to the Module Syllabus are the responsibility of the School

1. [Module Topics](#)
OSI reference model, TCP/IP reference model, network hardware, protocols, layers, services;   Physical layer (digital communication principles, bandwidth, sampling, Shannon channel capacity; transmission media; mobile communication systems)   Data link layer (error handling, flow control); Medium access control sublayer (multiple access protocols);   Network layer (routing algorithms, congestion control algorithms, IP); Transport layer (TCP); Application layer.

2. [Teaching Style](#) (please tick)							
Lecture-based	✔	*Resource-based*		*Problem-based*	✔	*Other (please specify)*	

3. [Teaching and Learning Schedule](#) (100 student effort hours per 5 HWU credits)

	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	Wk 11	Wk 12	Total
Lectures	3	3	3	3	3	3	3	3	3	3			30 hours
Tutorials	1	1	1	1	1	1	1	1	1	1			10 hours
Laboratories													
Directed Self-Study	6	6	6	6	6	6	6	6	6	6	8	8	76 hours
Assessment									2			2	4 hours
													120 hours

4. [Assessment Weighting](#)
Coursework and examination contribute as separate individual components of assessment. Students are required to complete the coursework. Examination and coursework marks are averaged across modules in making the final assessment, as described in the relevant programme & course descriptions.

5. [Learning Resources](#)
Printed notes and web-based material.   Andrew S. Tanenbaum, "Computer Networks", 4th edition, Prentice Hall PTR, 2003.   Alberto Leon-Garcia and Indra Widjaja, "Communication Networks", 2nd edition, McGraw Hill, 2004.

See accompanying [Module Descriptor](#) and [Module Administration](#) for further details about this module.

[Date and Version](#)					
Date	*4/8/00*	*Date of Change*	*15/8/05*	*Version Number*	1.4