

**SUMMARY OF INFORMATION ON EACH COURSE**

1.	Name of Course	TCP/IP Programming								
2.	Course Code	TTP 3121								
3.	Status of Course [Applies to (cohort) ]	Specialization Core for B.IT (Hons) Data Communications and Networking								
4.	MQF Level/Stage	Bachelor Degree – MQF Level 6								
5.	Version (State the date of the Senate approval – history of previous and current approval date)	Date of previous version : June 2012 Date of current version : June 2014								
6.	Pre-Requisite	TCP1121 Computer Programming and TCN2141 Computer Networks								
7.	Name(s) of academic/teaching staff	Wee Kuok Kwee								
8.	Semester and Year offered	Trimester 1, Year 3								
9.	<b>Objective of the course in the programme :</b> To provide students with an understanding of TCP/IP network Programming. In particular the course focuses on the principles, techniques, and to understand the network concept in detail and to program using any programming language with to object oriented programming.									
10.	<b>Justification for including the course in the programme :</b> This course focusing on the programming aspects of computer networks. The goal of this course is to understand the current trends of communication protocols, socket programming, inter-process communication, and to understand how network research is done. We will cover the network programming in both wired networks and wireless networks.									
11.	<b>Course Learning Outcomes :</b>		Domain			Level				
	Describe the design principles of TCP/IP network		Cognitive			1				
	Explain the TCP/IP Protocols		Cognitive			5				
	Analyse the operation of inter-process communication		Cognitive			4				
	Select standard tools for TCP/IP network administration		Cognitive			3				
12.	Mapping of Learning Outcomes to Programme Outcomes :									
	Learning Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
	LO1							X		
	LO2							X	X	
	LO3	X						X	X	
	LO4	X							x	

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13.	Assessment Methods and Types :					
	Method and Type		Description/Details			Percentage
	Final Exam		Written examination			50%
	Test 1		Written examination			20%
	Project		Written report, implemented programs, individual project			20%
	Assignment		Written report, implemented programs, individual project			10%
14.	Mapping of assessment components to learning outcomes (LOs)					
	Assessment Components	%	LO1	LO2	LO3	LO4
	Final Exam	50	55.6	55.6	55.6	
	Test 1	20	22.2	22.2	22.2	
	Project	20	22.2	22.2	22.2	
	Assignment	10				100
15.	Details of Course					
	Topics				Mode of Delivery	
					Lecture	Lab
	<b>1. Introduction :</b> TCP/IP Architecture, TCP/IP Addressing systems, Domain Name System, Transport Layer Protocols, User Datagram Protocol. Transmission Control Protocol.				6	4
	<b>2. Interprocess Communication</b> File and record Locking, Pipes, FIFO's, Stream and Message, Message Queues, Semaphores				5	4
<b>3. Sockets</b> Socket systems calls, Reserved Ports, Stream Pipes, Socket Options, Asynchronous I/Q, Sockets and Signal.				5	4	

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<b>4. Transport Layer Interface</b> - Elementary TLI, Functions, streams and Streams Pipes, Asynchronous I/O, I/O Multiplexing		4	4
<b>5. Remote Procedure Calls</b> - Remote Login, Remote Command execution, External Data Representative 'RPCGEN' Compiler.		4	4
<b>Total</b>		24	20
Total Student Learning Time (SLT)	Face to Face / Guided Learning	Independent Learning	
Lecture	24	24	
Tutorials	-	-	
Laboratory/Practical	20	10	
Project	-	10	
Assignment	-	10	
Mid Term Test	1	3	
Final Exam	2	16	
Quiz	-	-	
Sub Total	47	73	
Total SLT	120		
16. Credit Value	3		
17. Reading Materials :			
Textbooks			
1. Michael Kerrisk, "The Linux Programming Interface", No Starch Press, 2010.			
2. Richard Stevens, W., "Unix Network Programming, Prentice-Hall, 1990.			
Reference Material (including 'Statutes' for Law)			
1. Michael J. Donahoo, Kenneth L. Calvert, "TCP/IP Sockets in C: Practical Guide for Programmers", Morgan Kaufmann, 2009.			
2. Martin, J., "TCP/IP Networking-Architecture, Administration and Programming", Prentice-Hal, 1994.			

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Appendix (to be compiled when submitting the complete syllabus for the programme) :

1. Mission and Vision of the University and Faculty
2. Programme Objectives or Programme Educational Objectives
3. Programme Outcomes (POs)
4. Mapping of POs to the 8 MQF domain
5. Summary of the Bloom's Taxonomy's Domain Coverage in all the Los in the format below :

Subject	Learning Outcomes (please state the learning Outcomes)	Bloom's Taxonomy Domain		
		Affective	Cognitive	Psychomotor
ABC1234	Learning Outcome 1			
	Learning Outcome 2			
	Learning Outcome 3			
	Learning Outcome 4			
DEF5678	Learning Outcome 1			
	Learning Outcome 2			
	Learning Outcome 3			
	Learning Outcome 4			

6. Summary of LO to PO measurement
7. Measurement and Tabulation of result for LO achievement
8. Measurement Tabulation of result for PO achievement