1.	Name of Course/Module	Internet Computing
2.	Course Code	TIC2211
3.	Status of Subject	Core for B.IT Artificial Intelligence
4.	MQF Level/Stage	Bachelor Degree – MQF Level 6
5.	Version (state the date of the last Senate approval)	June 2012
6.	Requirement for Registration	TCP1311 Object Oriented Programming
7.	Name(s) of academic/teaching staff	Fathin Fakhriah Chin Yong Jian Mohd Fikri Azli bin Abdullah
8.	Semester and Year offered	Trimester 2 (Gamma Level)

9. Objective of the course/module in the programme :

To provide an overview of the Internet and World Wide Web technologies. It also provides students with in depth knowledge of web programming including Client and Server side scripting. An important main objective is to establish sufficient knowledge of the web, its applications, security and services provided.

10. Learning Outcomes :

At the completion of the subject, students should be able to:

LO1: Illustrate the security issues involved in Internet Programming and the effect of this on the chosen Internet Programming Language. (Cognitive, Level 4)
LO2: Identify the basic concepts of gateway and server programming. (Cognitive, Level 1)
LO3: Design a network system in any particular domain. (Cognitive, Level 5)
LO4: Describe proper steps of connecting, accessing, manipulating and designing database driven: website. (Cognitive, Level 6)

11. Synopsis:

This course provides an introduction to the fundamental concepts and architecture of the Internet in addition to the World Wide Web and its associated technologies. The course provides knowledge in two major areas: the Internet architecture and Protocols, and the Web architecture and its client and server scripting technologies. In addition, modern and state of the art concepts associated with the Internet and the Web such as Web Security and Services are surveyed and explained.

Kursus ini mengetengahkan konsep asas internet, senibina internet, jaringan internet dan juga teknologi-teknologi yang berkaitan dengan internet. Kursus ini dibahagikan kepada dua bahagian utama. Pertama, senibina internet dan protokol-protokol internet dan yang kedua, senibina jaringan internet dan teknologi pengaturcaraan skrip klien dan pelayan. Konsep-konsep terkini termasuk bidang sekuriti internet dan perkhidmatan jaringan internet juga akan ditinjau dan dikupas.

12. Mapping of Subject to Programme Outcomes :

Programme Outcomes	**% of Contribution**

	PO1: Apply soft skills in work and career related activities	27.27
	PO2: Demonstrate knowledge and understanding of fundamental concepts, principles and best practices	36.36
	PO3: Analyse the requirements to address problems or opportunities in relevant domains or organisations	18.18
	PO5: Blend innovative mind and entrepreneurial skills	18.18

13. Assessment Methods and Types :

Method and Type	Description/Details	Percentage
Test	Written Exam	20%
Project	Report & Presentation	35%
Assignment	Report	5%
Final Exam	Written Exam	40%

14. Details of Subject

Topics	Mode of Delivery	
	Lecture	Laboratory
1. OVERVIEW OF NETWORKING AND THE INTERNET Internetworking, problems in Internetworking, Virtual network, Internetworking devices, Repeaters, Bridges, Routers, Gateways, History of the Internet, Internet Architecture and ISP.	2	2
2. TCP/IP SOCKETS AND SOCKET PROGRAMMING TCP/IP basics, IP addresses, Logical addresses, Address Resolution Protocol, Relation between TCP and IP, Ports and Sockets, Socket connections, UDP packets, Difference between UDP and TCP, Client and server sockets.	2	2
3. CLIENT-SERVER WEB ARCHITECTURE Client/Server Fundamentals, Client/Server as a Special Case of Distributed Computing, Client/Server Processes, Middleware, Network Services, Client/Server protocols, HTTP and HTTPS, Web servers.	2	2
4. WEB PAGE DESIGN AND HTML Introduction to HTML basics. Links, Anchors, Tables, Forms, and Frames, introduction to XML.	4	4
5. CLIENT SIDE WEB SCRIPTING Advanced features of HTML, Cascade Style Sheets, Introduction to Java Script programming, Objects in Java scripts, Basic Dynamic HTML with Java scripts.	4	4
6. SERVER SIDE WEB PROGRAMMING AND SCRIPTING Introduction to server side scripting, and in depth study to one server side scripting language such Java Server Pages, PHP, ASP, or a new scripting language required by the industry.	6	6
7. DATABASE DRIVEN WEB ARCHITECTURE AND DESIGN Database connectivity, accessing and manipulating databases, design of a database driven basic website.	2	2
8. WEB AND SCRIPTS SECURITIES User authentication, Sessions and sessions managements, cookies, Web security, Scripts security.	2	2
9. INTRODUCTION TO WEB SERVICES Introduction to web services, Definition, Service oriented architecture, Web services families, Web services protocol stack, SOAP, WSDL, Web service infrastructure, UDDI.	4	4

	Total	**28**	**28**

15. Laboratory

1. Introduction to C language and HTML.
2. Building a client and server applications using TCP sockets.
3. Install and Configure Apache web server and build a basic HTML based Web page.
4. Experimenting with HTTP protocol and HTML (Get and Post methods and Forms)
5. Create a dynamic user interface for a web page using Java script
6. More Java Script dynamic page interfaces
7. Design and experiment with server side scripting by creating a counter for a web page (use files)
8. Design a basic database driven application (example: basic library system).
9. Design user authentication enabled web site with security features.

16.

Total Student Learning Time (SLT)	Face to Face (Hour)	Total Guided and Independent Learning
Lecture	28	28
Tutorials		
Laboratory/Practical	28	14
Presentation		
Assignment	-	10
Project	-	10
Mid Term Test	1	3
Final Exam	2	15
Sub Total	59	80
Total SLT	139/40 = 3.475 => 3	

17. Credit Value: 3

18. Reading Materials :

Textbook	Reference Materials
1. Deitel, Internet and World Wide Web How to Program, Prentice Hall, 2008.	1. Douglas E. Comer, Internetworking with TCP/IP Vol.1: Principles, Protocols, and Architecture, 5/E, Prentice Hall, 2006. 2. Godbole and Kahate, Web Technologies: TCP/IP top Internet Application Architectures, McGraw Hill, 2003. 3. Bates, Web Programming: Building Internet Applications, John Wiley, 2002. 4. Deitel, Internet and World Wide Web How to Program, Prentice Hall, 2004. 5. Bai, et al, The Web Warrior Guide to Web Programming, Thomson, 2003. 6. David M. Geary, Advanced JavaServer Pages, Barnes and Noble, 2001. 7. Martin, J., "TCP/IP Networking - Architecture, Administration, and Programming", Prentice-Hall, 1994.

2. Appendix (to be compiled when submitting the complete syllabus for the programme) :
   1. Mission and Vision of the University and Faculty
   2. Mapping of Programme Objectives to Vision and Mission of Faculty and University
   3. Mapping of Programme Outcome to Programme Objectives
   4. Programme Objective and Outcomes (Measurement and Descriptions)