Module (Course Syllabus) Catalogue

2022-2023

College/ Institute	Erbil Technical Engineering College	
Department	Information System engineering	
Module Name	Internet Technology	
Module Code	INT501	
Degree	Technical Diploma ☐ Bachelor ✖ High Diploma ☐ Master ☐ PhD ☐	
Semester	5	
Qualification	Master	
Scientific Title	Lecturer	
ECTS (Credits)	6	
Module type	Prerequisite ☐ Core ✖ Assist. ☐	
Weekly hours	4	
Weekly hours (Theory)	(2)hr Class	(24)Total hrs Workload
Weekly hours (Practical)	(2)hr Class	(24)Total hrs Workload
Number of Weeks	12 weeks	
Lecturer (Theory)	Omar Shirko Mustafa	
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Lecturer (Practical)	Hassan Saeed	
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Websites		

Course Book

Course Description	This course is an introduction to the basics of Internet and the World Wide Web. The course will provide an overview of Internet structure, technology and will introduce students to Internet protocols and Internetworking.
Course objectives	• Understand the overall structure of the Internet and the World-Wide Web • Understand how the Internet works • Become familiar with the protocols for internetworking in the Internet • Understand the client-server model Describe different ways to access the Internet • Explain the protocols, URL, DNS and domains • Perform basic server side programming
Student's obligation	**Arrive on time and prepared for all classes**, meetings, academic activities, and special events. Give attention to quality and excellence in completing assignments.
Required Learning Materials	Basic concepts of Web programing.

Evaluation

	Task	Weight (Marks)	Due Week	Relevant Learning Outcome
	Paper Review			
Assignments	Homework	5		
	Class Activity	2		
	Report	10		
	Seminar			
	Essay			
	Project			
	Quiz	8		
	Lab.	10		
	Midterm Exam	25		
	Final Exam	40		
	Total	100		

Specific learning outcome:	Upon successful completion of this subject, students should: be able to explain and demonstrate various components of Internet be able to analyses the role and importance of Internet in the modern world; be able to investigate and propose various requirements of Internet for real world applications; be able to evaluate a variety of existing and developing architecture technologies for Internet; be able to describe and evaluate different applications of the Internet.
Course References:	**1- tcp_ip-protocol-suite-4th-ed-b-forouzan-mcgraw-hill-2010-bbs** **2- Computer Networking A Top-Down Approach 6th**

Course topics (Theory)	**Week**	**Learning Outcome**
Introduction & course overview	**Week 1**	
The structure of the Internet	**Week 2**	
How the Internet works	**Week 3**	
OSI model	**Week 4**	
Internet protocols, TCP/IP	**Week 5**	
WWW, HTTP, HTTPS, FTTP,ports,…	**Week 6**	
Internet addresses, URL, Domains. Domain Name Server.	**Week 7**	
Explain the architecture of electronic mail using four scenarios.	**Week 8**	
Explain the user agent (UA), services provided by it, and two types of user agents.	**Week 9**	
Transfer Protocol (SMTP) as the formal protocol that handles MTA. Also, explain email transfer phases.	**Week 10**	
Discuss two message access agents (MAAs): POP and IMAP.	**Week 11**	
TCP SERVICES, Full-Duplex Communication and Multiplexing and Demultiplexing . Connection-Oriented Service and Reliable Service	**Week 12**	

Practical Topics	Week	Learning Outcome
How receive Data from user	Week-1	
Analysis data to information	Week-2	
Introduction about Dreamweaver, (using Dreamweaver to design web page)	Week-3	
Learn how to design and develop a Web page using HTML and CSS.	Week-4,5	
Design and develop a Web site using text, images, links, lists, and tables for navigation and layout.	Week-6	
Style your page using CSS, internal style sheets, and external style sheets.	Week-7	
Type of websites (static and dynamic websites) Type of sites (Clint site and server cite)	Week-8	
URL (domain, subdomain and IP Address)	Week-9	
Introduction about php and MySQL	Week-10	
Using php programming to develop web page	Week-11	
Local server(localhost) and remote server(online)	Week-12	

Questions Example Design

Q 1/ The following is a dump of a UDP header in hexadecimal format.

CB84000D001C001C

A- What is the source port number?
B- What is the destination port number?
C- What is the total length of the user datagram?
D- What is the length of the data?
E- Is the packet directed from a client to a server or vice versa?
F- What is the client process?

Solution:

a. The source port number is the first four hexadecimal digits $(CB84)_{16}$ or 52100.
b. The destination port number is the second four hexadecimal digits $(000D)_{16}$ or 13.
c. The third four hexadecimal digits $(001C)_{16}$ define the length of the whole UDP packet as 28 bytes.
d. The length of the data is the length of the whole packet minus the length of the header, or 28 – 8 = 20 bytes.
e. Since the destination port number is 13 (well-known port), the packet is from the client to the server.

f. The client process is the Daytime (see Table 14.1).

Q2) *Multiple choices:*

1- When a server wants to respond to a client, it sends messages to the outgoing queue, using the source port number specified in the
A) Port B) Request C) Data Frame D) Packets

2- UDP is used for management processes such as
A) SMTP B) TCP/IP C) SNMP D) TCP

3- The Network layer is responsible for

A) Node-to-Node delivery
B) Host-to- host delivery
C) Process to Process delivery
D) Source to Host Delivery

Solution: B, C and B

Extra notes:

External Evaluator

I confirm that the syllabus given in the attached course book is sufficient and covers the required areas needed for the students.

Mr . Dana Farhad Abdulqadir

Assist Lecturer

19/10/2022