

Module (Course Syllabus) Catalogue

2024-2025

College/ Institute	Erbil Technical Engineering College	
Department	Information System engineering	
Module Name	Internet Technology(CCNA1)	
Module Code	INT501	
Degree	Technical Diploma <input type="checkbox"/>	Bachelor <input checked="" type="checkbox"/>
	High Diploma <input type="checkbox"/>	Master <input type="checkbox"/> PhD <input type="checkbox"/>
Semester	5	
Qualification		
Scientific Title		
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/>	Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>
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)	Shavan Kamal Askar Omar Shirko Mustafa	
E-Mail & Mobile NO.	Shavan.askar@epu.edu.iq 07501983109 Omar.mustafa@epu.edu.iq 07503633901	
Lecturer (Practical)	Dr.Media Ali Ibrahim Dr.Diana Hayder Hussein Mr.Nihad Khalid Abdullah	

	Hasan Abduljabbar Saeed
E-Mail & Mobile NO.	Media.ibrahim@epu.edu.iq 07504859569 Diana.husseini@epu.edu.iq 07504062524 Nihad.abdullah@epu.edu.iq 07824855750 hasan.saeed@epu.edu.iq 07504654337
Websites	

	on experience.				
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					
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:	The specific learning outcomes of this course are that students will be able to understand and explain the fundamental concepts of networking, including the function and configuration of devices such as switches and routers. They will demonstrate the ability to configure basic network devices, manage IP addressing for both IPv4 and IPv6, and explain the operation of key networking protocols within the OSI and TCP/IP models. Students will gain in-depth knowledge of Ethernet technology, including the physical and data link layers, and will be proficient in configuring routers for inter-network communication. They will also be able to use ICMP tools to diagnose network issues and understand the roles of the transport and application layers in supporting				

	network services. Additionally, students will identify and implement basic network security measures to protect against common threats, and they will be capable of designing and building a small network that meets specific needs while ensuring security and reliability.	
Course References:	<p>For CCNA1 (Introduction to Networks) study, a highly recommended reference is Cisco's own learning resources and documentation. The Cisco Networking Academy provides comprehensive materials for CCNA1. You can find these resources at:</p> <ul style="list-style-type: none"> • Cisco Networking Academy: Cisco Networking Academy <p>Additionally, Cisco offers a free digital version of the CCNA 1 textbook:</p> <ul style="list-style-type: none"> • CCNA 1 v7.0 - Introduction to Networks (Textbook): Cisco CCNA 1 v7.0 Textbook 	
Course topics (Theory)	Week	Learning Outcome
Basic Network connectivity and communications:1-networking today2-Basic switch and end device configuration.3-Protocols and models.	Week 1,2	
- Ethernet concepts:4-Physical layer,5-Number systems,6-Data Link layer, 7-Ethernet switching.	Week 3,4	
- Communication between networks:8-Network layer,9-address resolution,10-basic router configuration.	Week 5,6,7	
- IP addressing:11-IPv4 addressing ,12- IPv6 addressing,13-ICMP	Week 8,9	
-Network application communications:14-Transport layer,15-application layer.	Week 10,11,12	
-Building and securing a small network:16-network security fundamentals,17-Building and a small network	Week 13,14	
Practical Topics	Week	Learning Outcome

<p>Start with networking today by exploring modern hardware and configuring basic switches and end devices. Understand protocols and models through hands-on setups and testing. Dive into Ethernet concepts by working with physical layer components, number systems, data link layer settings, and Ethernet switching techniques. Learn communication between networks by configuring network layer settings, resolving addresses, and setting up basic router configurations. Master IP addressing with IPv4 and IPv6, and understand ICMP for network diagnostics. Explore network application communications by configuring and testing transport and application layer protocols. Finally, focus on building and securing a small network by implementing security fundamentals and designing a functional network with necessary services.</p>	<p>Week1- Week14</p>	<p>to provide a comprehensive understanding of networking concepts and practical skills, including configuring modern network hardware, setting up and managing switches and end devices, and applying networking protocols and models. You'll master Ethernet concepts by working with physical and data link layers, and gain expertise in Ethernet switching. You'll learn to manage inter-network communication through IP routing and address resolution, configure and troubleshoot both IPv4 and IPv6 addressing, and use ICMP for network diagnostics. Additionally, you'll test and manage network application communications across transport and application layers, and design, build, and secure a small network to apply security fundamentals effectively. This hands-on experience prepares you for real-world networking scenarios by integrating setup, management, and security skills.</p>
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