

Module (Course Syllabus) Catalogue

2025-2026

College/ Institute	Technical College of Computer and Informatic Engineering	
Department	Department of Information System Engineering	
Module Name	Network Management	
Module Code	NDI704	
Degree	Technical Diploma <input type="checkbox"/> Bachler <input checked="" type="checkbox"/> High Diploma <input type="checkbox"/> Master <input type="checkbox"/> PhD <input type="checkbox"/>	
Semester	Eight	
Qualification		
Scientific Title		
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/> Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>	
Weekly hours	4	Total Workload=(162) hrs
Weekly hours (Theory)	(2)hr Class	(53)Total hrs Workload
Weekly hours (Practical)	(2)hr Class	(109)Total hrs Workload
Number of Weeks	20	
Lecturer (Theory)	A.Prof. Dr.Reben KURDA	
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Lecturer (Practical)	Dr.Diana Hayder Hussein Dr. Media Ali Ibrahim	
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Course Book

<p>Course Description</p>	<p>This course covers various topics in computer networks. It includes protocols that govern way communication takes place on the network management, the parameters for routing and network analysis and dissemination strategies in the static and dynamic networks. The IPv4 services, configuring IPv4 routing protocols, implementing, Understanding and Implementing OSPF, and wireless LANs, Miscellaneous IP Services and QoS</p>				
<p>Course objectives</p>	<ul style="list-style-type: none"> ▪ Analyze the issues and challenges pertaining to management of emerging network technologies such as wired/wireless networks and high-speed internets. ▪ Apply network management standards to manage practical networks ▪ Formulate possible approaches for managing OSI network model. ▪ Use on SNMP for managing the network ▪ Use RMON for monitoring the behavior of the network ▪ Identify the various components of network and formulate the scheme for managing them 				
<p>Student's obligation</p>	<p>It is the teacher's job to formulate a classroom management plan to facilitate the development of an effective learning environment. The student also has an obligation in the development of a quality learning environment. Following individual rules or expectations is just the beginning. In addition to complying with posted rules, students should be expected to show respect for self and others and meet all behavioural and academic expectations.</p>				
<p>Required Learning Materials</p>					
<p>Evaluation</p>	<p>Task</p>	<p>Weight (Marks)</p>	<p>Due Week</p>	<p>Relevant Learning Outcome</p>	
	<p>Paper Review</p>				
	<p>Assignment</p>	<p>Homework</p>	<p>6</p>	<p>2</p>	
		<p>Class Activity</p>	<p>2</p>	<p>1</p>	
		<p>Report</p>	<p>5</p>	<p>1</p>	
<p>Seminar</p>		<p>5</p>	<p>1</p>		

	Essay			
	Project			
	Lab Report & Activity	9	1-2	
	Quiz	4	1	
	Lab Quiz	4	1	
	Midterm Exam	10	1	
	Lab Midterm Exam	15	1	
	Final Exam	20	1	
	Lab Final Exam	20	1	
	Total	100		
Specific learning outcome:	<p>Forms of teaching is on two phase</p> <ul style="list-style-type: none"> ✓ In the beginning give the students theory lecture by using data show and White Board. ✓ Direct the students to labs in order to apply the commands and what they took in the theory on computer supervising by the teacher itself with his assistant. 			
Course References:	<p>Required Textbook: Computer Networking: CCNA 200-301 Official Cert Guide, Volume 1 & 2 , WENDELL ODOM, CCIE No. 1624 Emeritus (ISBN: 9780135792735).</p>			
Course topics (Theory)		Week	Learning Outcome	
<p>Volume 1 Part III: IP Services (Weeks)</p> <p>■ Part V: IPv4 Routing, Chapter 15, “Operating Cisco Routers,”</p>		1	Is like Chapter 8, focusing on basic device management, but it focuses on routers instead of switches.	
<p>Volume 1 Part III: IP Services (Weeks)</p> <p>■ Part V: IPv4 Routing, Chapter 16, “Configuring IPv4 Addressing and Static Routes,”</p>		1&2	Discusses how to add IPv4 address configuration to router interfaces and how to configure static IPv4 routes.	
<p>Volume 1 Part VI: OSPF</p> <p>■ Chapter 19, “Understanding OSPF Concepts,”.</p>		1&2	introduces the fundamental operation of the Open Shortest Path First (OSPF) protocol, focusing on link state fundamentals,	

		neighbour relationships, flooding link state data, and calculating route based on the lowest cost metric
Volume 1 Part VI: OSPF <ul style="list-style-type: none"> ▪ Chapter 20, “Implementing OSPF,” 	1&2	Takes the concepts discussed in the previous chapter and shows how to configure and verify those same features.
Volume 1 Part VI: OSPF <ul style="list-style-type: none"> ▪ Chapter 21, “OSPF Network Types and Neighbours,” 	1&2	Takes the next steps in OSPF configuration and verification by looking in more depth at the concepts of how routers enable OSPF on interfaces, and the conditions that must be true before two routers will succeed in becoming OSPF neighbours
Volume 1 Part VIII: Wireless LANs <ul style="list-style-type: none"> ▪ Chapter 26, “Fundamentals of Wireless Networks” 	1&2	Explain the role and function of network components. Access Points. Describe wireless principles. a Nonoverlapping Wi-Fi channels. SSID. RF
Volume 2 Part III: IP Services <ul style="list-style-type: none"> ▪ Chapter 11, “Quality of Service (QoS),” 	1&2	Discusses a wide variety of concepts all related to the broad topic of QoS.
Volume 2 Part III: IP Services <ul style="list-style-type: none"> ▪ Chapter 12, “Miscellaneous IP Services,” 	1&2	Discusses several topics for which the exam requires conceptual knowledge but no configuration knowledge, including FHRPs (including HSRP), SNMP, TFTP, and FTP.
Practical Topics	Week	Learning Outcome
1. Example of OSPF 2. IP Routing in the LAN 3. OSPF 4. Wireless LAN 5. QoS	1-12	

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| 6. FHRPs (including HSRP), SNMP, TFTP, and FTP | | |
| 7. SNMPV2 | | |
| 8. SNMPV3 | | |

Questions Example Design

Compositional:

1. Multi choices
2. Network Design

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Solution:

Diagram

Extra notes:

External Evaluator

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

Signature

01/02/2026