Course Model DescriptionComputer networks

Course description template
1. **Course Name**
Computer networks
2. **Course code**
CN
3. **Chapter and Year**
2025-2026
4. **Date this description was prepared**
Tuesday02December2025
5. **Available forms of attendance**
My presence
6. **Total number of study hours**
90 study hours
7. **Name of course coordinator**
Dr. Ayad Hamid Musa
8. **Course objectives**
1. The student should understand the theoretical foundations of computer network architecture and the main communication protocols.(Such as TCP/IP) and its importance in digital media infrastructure. 2. To learn about the types of networks(LAN, WAN, MAN) and their technologies, and the ability of each type to support broadcasting and media distribution systems. 3. To analyze bandwidth requirements(Bandwidth) and Quality of Service (QoS) required to broadcast different media content (text, audio, video) over networks. 4. To apply basic network security principles and protect transmitted media data from hacking and unauthorized access. 5. To evaluate network performance and stability as a critical factor in the quality of user experience for live and stored media content.. 6. To understand the role of web serversWeb servers and content servers (CDNs) accelerate and distribute the load for media websites and video platforms. 7. To become familiar with wireless networking technologies(Wi-Fi, 5G) and its impact on the production and consumption of mobile media content. 8. To analyze the relationship between network architecture and scalability(Scalability) Digital media platforms to accommodate large numbers of users. 9. To be informed about emerging technologies in networks(Such as 6G networks, edge computing) and their future implications for the media industry. 10. To apply network management and monitoring concepts to ensure the continuity of digital media platforms and avoid service interruptions..
9. **Teaching and learning strategies**
1. Learning through practical simulation Using simulation software(Such as Packet Tracer) to build and design virtual networks and implement their basic configurations in a secure and cost-free manner. 2. Problem-based learning Presenting realistic network failure scenarios (such as network slowdown or outage), analyzing and diagnosing them, and finding appropriate solutions step by step.. 3. Applied learning in the laboratory Creating physical local networks(LAN) in the lab using actual equipment (such as routers, switches and cables) and manually connecting and configuring devices.

4. Project-based collaborative learning
   Divide the students into teams for a project to design an integrated network for a virtual media organization, with roles distributed (network manager, security officer, architecture planner)..
5. Standard visual learning
   Using animation and visual representations(Visualizations) To illustrate the path of data packets through different network layers, and to transform abstract concepts into tangible images.

10. **Course structure**

Chapter One					
Evaluation Method	**Learning method**	**Unit name**	**Learning outcomes**	**Number of hours**	**Week number**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Introduction to Digital Technologies + Basic Concepts of Digital Technologies	The student should learn about the concept of digital technologies and their concepts.	3	**1**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	The new media structure of the 21st century	The student should become familiar with the new media structure in the twenty-first century.	3	**2**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Media applications of the Internet	The student should become familiar with the media applications of the Internet.	3	**3**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Areas of benefit from modern technology in the field of media	The student should learn how to utilize modern technology in the field of media.	3	4
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Digital information sources	The student should learn about digital information sources.	3	5
First month exam					6

Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	The role of artificial intelligence in media	The student should learn about the role of artificial intelligence in media.	3	**7**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Artificial intelligence applications in online journalism	The student will learn about the applications of artificial intelligence in electronic journalism.	3	**8**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Arab journalism and artificial intelligence	The student should learn Arabic journalism and artificial intelligence.	3	**9**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Communication technology	The student should learn communication technology.	3	**10**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Cloud computing	The student should learn about cloud computing.	3	**11**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Internet of Things	The student should learn about the Internet of Things.	3	**12**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Metaphysical flags	The student should become familiar with metaphysical symbols.	3	**13**
Monthly exam 2					**14**
Review of topics from Chapter 1					**15**
Chapter Two					
Evaluation Method	**Learning method**	**Unit name**	**Learning outcomes**	**Number of hours**	**Week number**

Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Big data	The student should become familiar with big data.	3	**16**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	The student should learn computational thinking.	The student should learn computational thinking.	3	**17**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Computer networks	The student should learn about computer networks and their types.	3	**18**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Automation and the reasons for moving towards it	The student should understand the reasons for moving towards automation.	3	**19**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Virtual and Augmented Reality	The student should learn about virtual and augmented reality.	3	**20**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Cybersecurity	The student should learn cybersecurity	3	**21**
First month exam					**22**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	robots	The student will learn about robots.	3	**23**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Machine learning	The student should learn what machine learning is and how to train and test it.	3	**24**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Electronic publishing	The student should learn electronic publishing.	3	**25**

Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	fuzzy computing	The student should learn fuzzy computing.	3	**26**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Digital Marketing	The student should learn digital marketing	3	**27**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Digital Content Management	The student should learn how to manage digital content.	3	**28**
Second semester exam					**29**
Electronic, written, oral, and direct question tests	Delivering lectures and discussions in person	Practical applications		3	**30**
Final exam					**31**

11. **Course evaluation**

The grade out of 100 is distributed according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, and written exams, reports, etc.
20 (marks for the first semester) 15 theory and 5 practical
20 (marks for the second semester) 15 theory and 5 practical
The annual coursework grade is 40, and the final exam grade is 60.

12. **Learning and teaching resources**

1. **University of Dhi Qar Curriculum / College of Media / Department of Digital Media**
2. **Media Technology in the Digital Age**