



Course Description Form: Principles of Computer Networks

Course name .25
Principles of Computer Networks
Course code .26
CNF
Semester and year .27
2026-2027
Date of preparation of this description .28
15-10-2026
Available forms of attendance .29
In-person
Total study hours .30
study hours 90
Name of course coordinator .31
Asst. Lecturer Ali Jaber Shinawa
Course objectives .32
That the student understands the theoretical foundations of the structure of computer networks and the .7 main communication protocols (such as TCP/IP) and their importance in the digital media infrastructure That the student learns about network types (LAN, WAN, MAN) and their technologies, and the ability of each .type to support media broadcasting and distribution systems That the student analyzes the bandwidth and quality of service (QoS) requirements needed to stream .9 .different media content (text, audio, video) over networks That the student applies the basic principles of network security and protects transmitted media data from .1 .breaches and unauthorized access That the student evaluates network performance and stability as a decisive factor in the quality of the user .1 .experience for live and stored media content That the student understands the role of web servers and content delivery networks (CDNs) in accelerating .1 .and load-balancing media websites and video platforms That the student learns about wireless network technologies (Wi-Fi, 5G) and their impact on the production .1 .and consumption of mobile media content That the student analyzes the relationship between network structure and the scalability of digital media .14 .platforms to accommodate large numbers of users

That the student is introduced to emerging network technologies (such as 6G networks and edge computing) .
 .and their future implications for the media industry

That the student applies the concepts of network management and monitoring to ensure the continuity of .16
 .digital media platforms and avoid service interruptions

Teaching and learning strategies .33

Learning through practical simulation: Using simulation software (such as Packet Tracer) to build and design virtual networks and implement their basic configurations in a safe and cost-free manner.

Problem-solving-based learning: Presenting realistic network failure scenarios (such as network slowness or outages) and analyzing, diagnosing, and finding appropriate solutions step by step.

Applied laboratory learning: Setting up actual local area networks (LANs) in the laboratory using real equipment (such as routers, switches, and cables), and connecting and configuring devices manually.

Project-based collaborative learning: Dividing students into teams for a project to design an integrated network for a hypothetical media institution, with distribution of roles (network manager, security officer, architecture planner).

Standard visual learning: Using animations and visualizations to illustrate the path of data packets through the different network layers, and turning abstract concepts into tangible images.

Course structure .34

First Semester

Assessment method	Learning method	Unit name	Learning outcomes	Number of hours	Week number
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Introduction to digital technologies + basic concepts of digital technologies	That the student learns the concept of digital technologies and their concepts	3	1
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	The new media structure in the twenty-first century	That the student learns about the new media structure in the twenty-first century	3	2
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Media applications of the Internet	That the student learns about the media applications of the Internet	3	3
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Areas of benefit from modern technology in the field of media	That the student learns the areas of benefit from modern technology in the field of media	3	4
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Digital information sources	That the student learns about digital information sources	3	5
First month exam					6

Electronic, written, and oral tests and direct questions	In-person lectures and discussion	The role of artificial intelligence in media	That the student learns about the role of artificial intelligence in media	3	7
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Applications of artificial intelligence in electronic journalism	That the student learns about applications of artificial intelligence in electronic journalism	3	8
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Arab journalism and artificial intelligence	That the student learns about Arab journalism and artificial intelligence	3	9
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Communication technology	That the student learns communication technology	3	10
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Cloud computing	That the student learns cloud computing	3	11
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	The Internet of Things	That the student learns the Internet of Things	3	12
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Metaverse media	That the student learns about Metaverse media	3	13
Month 2 exam					14
Review of first-semester topics					15
Second Semester					
Assessment method	Learning method	Unit name	Learning outcomes	Number of hours	Week number
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Big data	That the student learns about big data	3	16
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	That the student learns computational thinking	That the student learns computational thinking	3	17
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Computer networks	That the student learns computer networks and their types	3	18
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Automation and the reasons for the trend toward it	That the student learns about the reasons for the trend toward automation	3	19
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Virtual and augmented reality	That the student learns what virtual and augmented reality are	3	20
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Cybersecurity	That the student learns cybersecurity	3	21
First month exam					22

Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Robotics	That the student learns about robots	3	23
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Machine learning	That the student learns what machine learning is and how training and testing are done	3	24
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Electronic publishing	That the student learns electronic publishing	3	25
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Fog computing	That the student learns fog computing	3	26
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Digital marketing	That the student learns digital marketing	3	27
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Digital content management	That the student learns how to manage digital content	3	28
Second-semester exam					29
Electronic, written, and oral tests and direct questions	In-person lectures and discussion	Practical applications		3	30
Final exam					31
Course evaluation .35					
Distribution of the mark out of 100 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 theoretical and 5 practical 20 (marks for the second semester): 15 theoretical and 5 practical Annual coursework mark 40 and 60 marks for the final exam					
Learning and teaching resources .36					
Curriculum of the University of Dhi Qar / College of Media / Department of Digital Media .4 Book: Media Technology in the Digital Age .5					

