Course description form

Course description

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1. Educational institution	Tikrit University / College of Computer Science and Mathematics
2. Scientific department/center	Computer Science
3. Course name/code	Computer networks 2
4. Available forms of attendance	My presence
5. Semester/year	2024–2023
6. Number of study hours (total)	60 hours practical + theoretical
7. Date this description was prepared	2024/26/3

8. Course objectives
   - Teaching the student the theoretical skills of data communications and networks
   - Qualifying students to teach this subject to middle and middle school students
   - Preparing students to work in the private and governmental telecommunications sector
   - Teaching the student theoretical computer networking skills
   - Understanding computer networks.
   - Understanding the layers of computer networks.
   - Understanding the protocols and the packet's journey from source to target.

9. Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives
   1. Knowledge of basic concepts of computer networks
   2. The student recognizes the importance of general concepts of computer networks.
   3. Identify the most important protocols used to organize the network's work
   4. Study the most important factors that affect the work of networks

B - The skills objectives of the course
1. The student learns to use computer networks and their equipment and possesses the ability to set them up.
2. Prepare qualified cadres to teach the networking subject in educational institutions.
3. Learn how to set up network protocols using the simulation program (Packet Tracer)

Teaching and learning methods

- Traditional lectures and discussion style
- Laboratory activities and preparing reports
- Advanced lectures (presentation)
- Using discussion via the electronic classroom (Google Classroom)(
- Using simulation programs prepared for this purpose on computers inside the laboratory
- Use some illustrative images and video clips that explain how network protocols work

Evaluation methods

Conducting theoretical and practical daily/quarterly/final tests
Reports
Conducting oral exams

Emotional and value goals

1. Using scientific and cognitive skills through dialogue on academic topics.
2. The student's ability to determine the type of network appropriate to the spatial and physical conditions through the use of realistic network simulation programs for the purpose of understanding the operation of protocols.
3. Consolidating the spirit of participation among students in solving various technical problems and working in a small team spirit.
4. Consolidating and implanting the principle that time is a necessary and important factor in networks and developing solutions to urgent problems.

Teaching and learning methods

- -Class and homework assignments
- -Practical activities
- -Discussion and positive participation via the electronic class

Evaluation methods

- Conducting theoretical and practical tests.
- Reports preparation.

D - Transferable general and qualifying skills (other skills related to employability and personal development).
1. Positive thinking and utilizing the knowledge you have received.
2. The ability to communicate with parties outside the university and train with them.

3. The student will be able to teach the subject he has learned if he is employed in an educational institution.
4. The ability of the student, if he wishes to develop himself scientifically by applying for postgraduate studies, to pass the test related to the networking subject, as it is one of the subjects included in the competitive examination for Iraqi universities.

10.Course structure
Week	**Hours**	**Required learning outcomes**	**Name of the unit/topic**	**Teaching method**	**Evaluation method**
1	4	Definition: Packet Tracer	Tracer Packet	Traditional lectures, discussion style, and presentation	Discussion and tests
2	4	Identify the physical connection of devices	Networks Physical Topologies	Traditional lectures, discussion style, and presentation	Discussion and tests
3	4	To introduce the means of transmission, wired and wireless, and how to link them in the program	Transmission Media Types	Traditional lectures, discussion style, and presentation	Discussion and tests
4	4	Learn about ways to send the signal	Multiplexing, TDM, FDM	Traditional lectures, discussion style, and presentation	Discussion and tests
5	4	Identify the logical connection of devices	Network Logical Topologies	Traditional lectures, discussion style, and presentation	Discussion and tests
6	4	Types of devices in networks	Network Devices	Traditional lectures, discussion style, and presentation	Discussion and tests
7	4	Networking software	Network Software	Traditional lectures, discussion style, and	Discussion and tests

				presentation	
8	4	Introduction to the OSI model	OSI Model	Traditional lectures, discussion style, and presentation	Discussion and tests
9	4	Introduction to the TCP/IP protocol	TCP/IP Model	Traditional lectures, discussion style, and presentation	Discussion and tests
10	4	Identify network protocols	Network Protocols	Traditional lectures, discussion style, and presentation	Discussion and tests
11	4	Learn about Switching Techniques	Switching Techniques	Traditional lectures, discussion style, and presentation	Discussion and tests
12	4	Learn how to connect different networks	Internetworking	Traditional lectures, discussion style, and presentation	Discussion and tests
13	4	Learn about data transfer	Data Communications	Traditional lectures, discussion style, and presentation	Discussion and tests
14	4	How to address within the network	IP Addressing	Traditional lectures, discussion style, and presentation	Discussion and tests
15	4	Learn about the Internet and its applications	Internet and It's Applications	Traditional lectures, discussion style, and presentation	Discussion and tests

11. Infrastructure	
1- Required prescribed books	1."TCP/ IP Protocol Suites", Behrouz Forouzan, McGraw-Hill, 4th edition, 2010
2- Main references (sources)	2. "Data Communication And Networking", Behrouz a. Forouzan, 4th edition, 2009
A) Recommended books and references (scientific journals, reports, etc.)	
b) Electronic references, Internet sites,...	http://www.youtube.com/playlist?list=PL828D58CF32F123B6

12.Course development plan
Courses are changed annually by 10% based on modern sources.