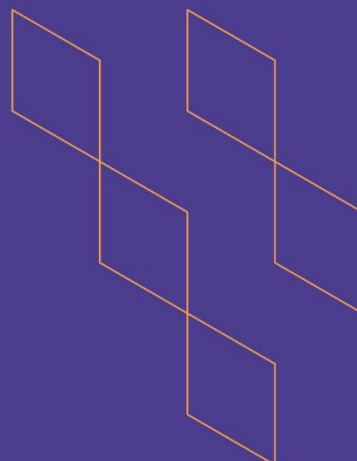




T-104
2022

Course Specification



Course Title:	Computer Networks
Course Code:	IS1251
Program:	Computer Information Systems
Department:	Computer Information Systems
College:	Computer Science & Information Technology
Institution:	Al-Baha University
Version:	T104 – V2
Last Revision Date:	May 24, 2023



Table of Contents:

Content	Page
A. General Information about the course	3
1. Teaching mode (mark all that apply) 2. Contact Hours (based on the academic semester)	3
B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods	4
C. Course Content	4
D. Student Assessment Activities	5
E. Learning Resources and Facilities	5
1. References and Learning Resources	5
2. Required Facilities and Equipment	5
F. Assessment of Course Quality	6
G. Specification Approval Data	6



A. General information about the course:

Course Identification

1. **Credit hours:** 4 Credit Hours (4, 0, 0) (Lecture, Lab, Tutorial)
(4Contact Hours)

2. Course type

a. University College Department Track Others

b. Required Elective

3. **Level/year at which this course is offered:** 5th level/ 2nd Year

4. Course general Description

This course is given to provide students with fundamentals of computer networking, the OSI model, and the TCP/IP model. Network protocols in wide area and local area networks. Students will also learn networking applications and how they fit into the network models. Network optimization and network design are covered. Client-Server networks and peer-to-peer networks are described, and their characteristics are investigated. Network management tools are introduced.

5. **Pre-requirements for this course (if any):** None

6. **Co- requirements for this course (if any):** None

7. Course Main Objective(s)

The main purpose for this course is to teach students how to:

- Describe Conceptual Models of networking. (TCP/IP, and OSI models).
- List the network standards and standard-setting organizations.
- Explain the fundamentals of Data and Signals and making Connections Efficient in LANs.
- Recognize the basic concepts, principles, and theories relating to computer networks.
- Solve problems by applying different mathematical and logical principles.
- Prepare suitable solutions on covered topics by solving given assignments periodically.
- Interact in groups collaboratively.
- Communicate concepts and techniques in oral presentations.

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	40	100%
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	40
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	40



B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Describe conceptual models of networking. (TCP/IP, and OSI models)	K1	Lectures Assignments	Quiz Midterm exams Final Exam
1.2	List the network standards and standard-setting organizations	K2	Lectures Assignments	Quiz Midterm exams Final Exam
2.0	Skills			
2.1	Explain the basic concepts, principles and theories relating to computer networks	S1	Lectures Assignments	Quiz Midterm exams Final Exam
2.2	Interpret the fundamentals of data and signals and making connections efficient in LANs	S2	Lectures Assignments	Quiz Midterm exams Final Exam
3.0	Values, autonomy, and responsibility			
3.1	Interact in groups collaboratively	V1	Small Groups	Oral Presentations
3.2	Communicate concepts and techniques in oral presentations	V2	Small Groups	Oral Presentations

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Computer Networks	6
2.	Network Models	6
3	Physical Layer	4
4	Data-Link Layer	4
5	Wired LANs Ethernet	6
6	Network Layer	6
7	IPv4 addressing	4
8	Subnetting IPv4 Networks	4
Total		40





D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm exam	Week 6	20%
2.	Report, presentation, and Class discussions	Week 9	10%
3.	Quiz	Week 10	10%
5	Final Exam	Week 12	60%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	<ul style="list-style-type: none"> • Andrew Tanenbaum and David Wetherall, Computer Networks, 5 thEdition Prentice Hall, 2010. ISBN 978-0132126953. • William. Stallings, Data and Computer Communications, 10th edition, Pearson Prentice Hall, 2013. • Douglas. Comer, Computer Networks and Internets, sixth
Supportive References	<ul style="list-style-type: none"> • Forouzan, Behrouz. Data Communications and Networking, 5th edition, Mc-Graw Hill International Edition, 2013.
Electronic Materials	<ul style="list-style-type: none"> • Access to the Saudi Digital Library (SDL). • Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	CISCO Packet Tracer software

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> • A classroom or lecture hall with whiteboard for 25 students. • A laboratory with 25 computers.
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> • A digital image projection system with connection to desktop computer and laptop computer. • High-speed Internet connection. • An instructor computer station
Other equipment (depending on the nature of the specialty)	<p>The laboratory should have computers with CISCO Packet Tracer.</p> <ul style="list-style-type: none"> • At least 10 CISCO Switches. • At least 5 CISCO Routers.





F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	<ul style="list-style-type: none"> Student Faculty Peer Reviewers Program Leader Course Coordinator 	<ul style="list-style-type: none"> Surveys (indirect). <ul style="list-style-type: none"> Direct feedback from students Course evaluation by Peer Reviewers (indirect). Class visit by Program Leader Comprehensive Course report (where we can find information about teaching <ul style="list-style-type: none"> difficulties and action plan,
Effectiveness of students assessment	<ul style="list-style-type: none"> Student Faculty Peer Reviewers Examination Committee Course Co 	<ul style="list-style-type: none"> Surveys (indirect). <ul style="list-style-type: none"> Direct feedback from students Assessment results (direct) Course evaluation by Peer Reviewers (indirect). Exam evaluation by the Exam Evaluation Committee (indirect)
Quality of learning resources	<ul style="list-style-type: none"> Students Faculty Peer Reviewers 	<ul style="list-style-type: none"> Surveys (indirect) Course evaluation by Peer Reviewers (indirect).
The extent to which CLOs have been achieved	<ul style="list-style-type: none"> Faculty Program Leader Course Co 	<ul style="list-style-type: none"> Student Results (direct) Comprehensive Course report (where we can find the CLO assessment results)
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	Curriculum Committee Meeting
REFERENCE NO.	
DATE	May 24, 2023

