Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Computing Department, Community College Dammam
University of Dammam

Course Specifications
(CS)

Computer Networks

CS120

Computer Networks

Course Specifications

Institution: University of Dammam	**Date of Report**
College/Department: Dammam-Community College / Computer Science Department	

A. Course Identification and General Information

1. Course title and code: Computer Networks (CS120)
2. Credit hours: 3 (2 Theoretical + 2 Practical)
3. Program(s) in which the course is offered:
Information systems and Information technology tracks
4. Name of faculty member responsible for the course
5. Level/year at which this course is offered: 1st Level / Year 1
6. Pre-requisites for this course (if any): None
7. Co-requisites for this course (if any):
8. Location if not on main campus
9. Mode of Instruction (mark all that apply)

a. Traditional classroom	√	What percentage?	%70
b. Blended (traditional and online)		What percentage?	
c. e-learning	√	What percentage?	%30
d. Correspondence		What percentage?	
f. Other		What percentage?	

Comments:

B. Objectives

1. What is the main purpose for this course? The student must be able to: 1. Study the principles of communications and computer networks. 2. Identify the means of communication devices and networks 3. Design a local network. 4. Deal with local computer networks and applications. 5. Use computer networks in various sectors of society. 6. The student can use the PACKET TRACER software in practical applications.
2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

Familiarity with the basic concepts of computer networks, the principles of local area networks and wide. Protocols, local area networks and wide.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
1. Introduction to computer networks.	1	2 T + 2 P
2. Design and modeling of computer networks		
3. Concepts of network architecture.	1	2 T + 2 P
4. Computer network components.		
5. Principles of digital communications	1	2 T + 2 P
6. Local area network and how to design.	1	2 T + 2 P
7. Example of local computer networks: Ethernet.		
8. The difference between local area networks and wide area networks	1	2 T + 2 P
9. Communication devices in the WAN.		
10. Conversion techniques.	1	2 T + 2 P
11. Conversion technology using virtual channels.	1	2 T + 2 P
12. Function to explore and track selection.	1	2 T + 2 P
13. Communication technologies in wide area networks.	1	2 T + 2 P
14. TCP/IP protocol.	1	2 T + 2 P
15. Application layer protocols FTP, Telnet, DHCP, HTTP	1	2 T + 2 P
16. Label in the IP protocol.	1	2 T + 2 P
17. Divide and addressing subnets	1	2 T + 2 P
18. The bridge and Router.	1	2 T + 2 P
19. Router Programming	1	2T + 2P

2. Course components (total contact hours and credits per semester):						
	Lecture	**Tutorial**	**Laboratory**	**Practical**	**Other:**	**Total**
Contact Hours	30		30			60
Credit	30		15			45

3. Additional private study/learning hours expected for students per week.	4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	**Course Teaching Strategies**	**Course Assessment Methods**
1.0	**Knowledge**		
1.1	Demonstrate an understanding of the functions of the different layers of OSI and TCP/IP models.	Lecture, Discussion	Classroom / Online , Laboratory Exercises, Major Exam
1.2	Describe the use of various protocols associated with layered models.		
2.0	**Cognitive Skills**		
2.1	Apply sub netting mechanisms appropriate for a given network scenario.	Lecture, Discussion, Simulation/ Actual Configuration/Demonstration	Classroom / Online , Recitation, Laboratory Exercises, Major Exam
2.2	Use techniques to design the physical and logical topologies of a network as well as to perform the required network component configurations.		
3.0	**Interpersonal Skills & Responsibility**		
3.1	Analyze and evaluate the processes involved in layered models.	Lecture, Discussion, Problem-solving, Simulation/ Actual Configuration/Demonstration	Classroom / Online , Recitation, Laboratory Exercises, Major Exam
3.2	Design and implement appropriate IP addressing plans.		
4.0	**Communication, Information Technology, Numerical**		
4.1	Demonstrate ability to work in group laboratory activities.	Actual Configuration	Laboratory Exercises

4.2	Ability to present and communicate effectively.		
5.0	**Psychomotor**		
5.1	N/A	N/A	N/A

5. Course Learning Outcomes Mapping Matrix

Identify on the table below the Course Outcomes and Relationship to PLOs

Course Learning Outcomes	Program Learning Outcomes
1. Knowledge	
1.1	**1.1**
1.2	**1.2**
2. Cognitive skills	
2.1	**2.3**
2.2	**2.1 , 2.2**
3. Interpersonal Skills and responsibility	
3.1	**3.1, 3.2**
3.2	**3.3**
4. Communication IT and Numeral Skills	
4.1	**4.2, 4.3**
4.2	**4.1**
5. Psychomotor Skills	
5.1	**N/A**

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Midterm	8	%20
2	Lab	13	%20
3	Project	12	%10
4	Attendance/Participation	All weeks	%10
5	Final	17	%40

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week) • Each group of students is assigned to a member of staff who will be available for help and academic guidance office hours at specific 2 hours on daily basis.

E. Learning Resources

1. List Required Textbooks • Larry L. Peterson, Computer Networks, Morgan Kaufmann, 5th Edition, 2011, ISBN-10: 0123850592.
2. List Essential References Materials (Journals, Reports, etc.) • Douglas E. Comer, Computer Networks and Internets, Prentice Hall; 5th Edition 2008. • Andrew S. Tanenbaum and David J. Wetherall, "Computer Networks", Prentice Hall and Pearson Education, 5th edition, 2010.
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)
4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.) • Blackboard and Social Media
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. • CDs accompanied with the text book, power point lectures and essential references.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) • Furnished with a large central table or multiple small tables that can be grouped into one central table • Designed for up to 25 students • Size the room allowing 1sq meter per seat Laboratories: 25 PC's (one for each students)

2. Computing resources (AV, data show, Smart Board, software, etc.) • Smart Board, projector, internet, and whiteboard**.**
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) • No

G. Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching • Student questionnaires to be assessed by independent body. • Assessment of course teaching strategies by independent body.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor • Student questionnaires to be assessed by department.

3 Processes for Improvement of Teaching • Attending workshop, reading books, and the searching for e-resources. • Revision of course contents, course specifications, and strategies every 5 years.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) • Check marking by an independent member of staff of a sample of student work. • Periodic exchange and remarking of a sample of assignments with a member of staff in another institution
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. • Reviewing student's feedback. • Update text books. • Consulting other top universities course specifications and contents.