











2024

TP-151



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A. Program Identification and General Information

1. Program's Main Location :

Main Campus, University City, Najran, Saudi Arabia, P.O. BOX 1988

2. Branches Offering the Program (if any):

N/A

3. Partnerships with other parties (if any) and the nature of each:

N/A

4. Professions/jobs for which students are qualified

The students of the CN program are well prepared for the following list of professions or occupations:

- 1. Computer Network and Systems Engineer
- 2. Network Security Consultant
- 3. Network Administrator.
- 4. Network Specialist.
- 5. Network Support
- 6. Network Analyst, Designer or Strategist.
- 7. Technical Support Representative
- 8. Technical Support Specialist
- 9. Field Service Technician
- 10. IT Support Technician/Specialist
- 11. IT Support Administrator
- 12. Computer Network Support Specialist

5. Relevant occupational/ Professional sectors:

- Educational Sectors
- IT Engineer
- Research Centers





- Communication, Space & Technology Commission
- Smart Cities
- Different sectors of society, governmental and private.

6. Major Tracks/Pathways (if any):

	Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
1.	N/A		
2.	N/A		

3. N/A

7. Exit Points/Awarded Degree (if any):							
exit points/awarded degree	Credit hours						
1. Intermediate Diploma in Computer Network and Communications	66						
2.							
3.							
8. Total credit hours: (139)							





B. Mission, Objectives, and Program Learning Outcomes

1. Program Mission:

To provide quality education through a well-designed computer networking curriculum that prepares students for <u>professional careers</u>, <u>lifelong learning</u>, <u>research</u> and <u>serving the community</u> in a professional manner.

2. Program Goals:

The Department of Networks and Communication Engineering developed the following four objectives for the BS Computer Networks Program with the involvement of the program constituencies. Moreover, the goals are consistent with the department, college, and university's goals.

- 1. To enhance students' computing capabilities by acquiring knowledge and concepts of computer networks.
- 2. To prepare students for the job market by strengthening their problem-solving and professional skills.
- 3. To contribute towards the community as a part of a team or individually with accountable, legal, ethical, and responsible practices.
- 4. To encourage students to continuously attain lifelong knowledge of computer networks through higher education, research, and emerging technologies.

3. Pro	3. Program Learning Outcomes*							
Knowl	edge and Understanding							
K1	Demonstrate knowledge of computing and mathematics appropriate to computer networking.							
К2	Demonstrate knowledge of network management, which includes the ability to install, configure and troubleshoot computer systems and networking components.							
Skills								
S1	Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.							
S2	Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the networking discipline.							
S3	Identify and analyze user needs and take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems.							





An ability to use and apply current technical concepts, appropriate research methods, and practices in the core of network technologies including network management, network security, network programming, and network designing.
 Compare and contrast different technologies used to meet users' requirements, design networks and interconnect networks.
 Communicate effectively in a variety of professional contexts.
 Values, Autonomy, and Responsibility
 V1
 Function effectively as a member or leader of a team engaged in activities appropriate to the networking discipline.
 Recognize professional responsibilities and make informed judgments in computing practice

V2 Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

* Add a table for each track or exit Point (if any)





C. Curriculum

1. Curriculum Structure

Bachelor of Science in Computer Networks

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Doguiromonto	Required	6	12	8.70%
Institution Requirements	Elective			
College Requirements	Required	10	33	23.91%
College Requirements	Elective			
Drogram Doguiramonto	Required	21	62	44.20%
Program Requirements	Elective			
Capstone Course/Project	Required	2	6	4.35%
Science Requirements	Required	2	6	4.35%
Computer Path	Required	6	17	12.32%
Field Experience/ Internship	Required	1	3	2.17%
Total		48	139	100%

* Add a separated table for each track (if any).

Exit Point: Intermediate Diploma in Computer Network and Communications

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Doquiromonts	Required	2	4	6.1%
institution Requirements	Elective			
College Deguirements	Required	7	21	31.82%
College Requirements	Elective			
	Required	6	18	27%
Program Requirements	Elective			
Capstone Course/Project	Required	0	0	0
Science Requirements	Required	1	3	4.55%
Computer Path	Required	6	17	25.76%
Field Experience/ Internship	Required	1	3	4.55%
Total		23	66	100%





2. Program Courses

Bachelor of Science in Computer Network and Communications

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	111-ENG-4	English Language Skills 1	Required	No	4	Computer Path
	112-ENG-4	English Language Skills 2	Required	No	4	Computer Path
Level 1	100-CSC-2	Computer Applications	Required	No	2	Program
	121-MAT-3	Introduction to Mathematics	Required	No	3	College
	141-PHY-3	General Physics	Required	No	3	Science
	116-ENG-3	English for Computer	Required	112-ENG-4	3	Computer Path
	151-SKL-2	University Life Skills	Required	No	2	Computer Path
Level	122-MAT-4	Introduction to Calculus	Required	121-MAT-3	4	College
2	113-ENG-3	General English	Required	No	3	Computer Path
	101-CSC-3	Programming Principles	Required	No	3	Program
	152-SKL-1	Basics of Entrepreneurship	Required	No	1	Computer Path
Professional Certificate 1		Microsoft (Office Specia	list (MOS)		
	201-CCN-4	Data Communication and Computer Networks	Required	No	4	Program
	211-CCN-3	Digital Logic Design	Required	No	3	Program
Level	286-MATH-3	Advanced Calculus	Required	122-MAT-4	3	College
3	201-CSC-4	Fundamentals of Programming	Required	No	4	College
	101-CIS-2	Digital Skills	Required	No	2	University
	283-MATH-3	Discrete Mathematics	Required	No	3	College





Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)			
	101-ARB-2	Language and Writing Skills	Required	No	2	University			
	203-CSC-4	Object Oriented Programming	Required	201-CSC-4	4	College			
Level	308-CSC-3	Operating Systems	Required	No	3	College			
4	212-CCN-3	Computer Network Management	Required	201-CCN-4	3	Program			
	202-CCN-3	Routing and Switching	Required	201-CCN-4	3	Program			
	284-MATH-3	Linear Algebra	Required	No	3	College			
Professional Certificate 2	(CCNA) Cisco Certified Network Associate								
Exit Point	Intermediate	Diploma in Computer 1 Look at page 11 fe	Network and or the exit po	Communicatio	ns (66 Cr ts	edit Hours)			
	313-CCN-3	Computer Architecture	Required	211-CCN-3	3	Program			
	331-CCN-3	Fundamentals of Cybersecurity	Required	201-CCN-4	3	Program			
Level	341-CCN-3	Network Analysis and Design	Required	201-CCN-4	3	Program			
5	Biology dept.	General Biology	Required	No	3	Science			
	285-STAT-3	Probabilities and Engineering Statistics	Required	No	3	College			
	301-CSC-3	Data Structures	Required	203-CSC-4	3	College			
	351-CCN-3	Concepts of Database Systems	Required	No	3	Program			
Level	332-CCN-3	Network Security	Required	331-CCN-3	3	Program			
6	303-CCN-3	Network Programming	Required	202-CCN-3	3	Program			
	111-TQF-2	Muslim Culture 1	Required	No	2	University			





Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	314-CCN-3	Cloud Computing and Distributed Systems	Required	201-CCN-4	3	Program
	352-CCN-3	Technical Project Management	Required	No	3	Program
	112-TQF-2	Muslim Culture 2	Required		2	University
	421-CCN-3	Mobile and Wireless Networks	Required	201-CCN-4	3	Program
ا مىرە	403-CCN-3	Multimedia Networks and Applications	Required	201-CCN-4	3	Program
7	453-CCN-3	Artificial Intelligence: Principles and Techniques	Required	No	3	Program
	442-CCN-3	Network Simulation and Modeling	Required	202-CCN-3	3	Program
	461-CCN-3	Graduation Project 1	Required	352-CCN-3	3	Program
	102-NAT-2	National Identity	Required	No	2	University
	462-CCN-3	Graduation Project 2	Required	461-CCN-3	3	Program
	433CCN-2	Computer Networks Ethics	Required	No	2	Program
Level 8	110-BUS-2 or 334-PSY-2 or 201HST-2]Principles of Management] or [Logic and Critical Thinking] or [The History of Saudi Arabia]	Required	No	2	University
	422-CCN-3	Internet of Things	Required	No	3	Program
	443-CCN-3	Selected Topics in Computer Networks	Required	No	3	Program
Professional Certificate 3		(CCNP) Cisco Certifie	d Network P	rofessional cert	ification	
Level 9	463-CCN-3	Field Training	Required	60 CR Completed	3	Program





- * Include additional levels (for three semesters option or if needed).
- ** Add a table for the courses of each track (if any)

Intermediate Diploma in Computer Network and Communications

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	111-ENG-4	English Language Skills 1	Required	No	4	Computer Path
	112-ENG-4	English Language Skills 2	Required	No	4	Computer Path
Level 1	100-CSC-2	Computer Applications	Required	No	2	Program
	121-MAT-3	Introduction to Mathematics	Required	No	3	College
	141-PHY-3	General Physics	Required	No	3	Science
	116-ENG-3	English for Computer	Required	112-ENG-4	3	Computer Path
	151-SKL-2	University Life Skills	Required	No	2	Computer Path
Level	122-MAT-4	Introduction to Calculus	Required	121-MAT-3	4	College
2	113-ENG-3	General English	Required	No	3	Computer Path
	101-CSC-3	Programming Principles	Required	No	3	Program
	152-SKL-1	Basics of Entrepreneurship	Required	No	1	Computer Path
Professional Certificate 1		Microsoft (Office Specia	list (MOS)		
	201-CCN-4	Data Communication and Computer Networks	Required	No	4	Program
Level	211-CCN-3	Digital Logic Design	Required	No	3	Program
	201-CSC-4	Fundamentals of Programming	Required	No	4	College
	101-CIS-2	Digital Skills	Required	No	2	University





Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
101-ARB	101-ARB-2	Language and Writing Skills	Required	No	2	University
	203-CSC-4	Object Oriented Programming	Required	201-CSC-4	4	College
Level	308-CSC-3	Operating Systems	Required	No	3	College
4	212-CCN-3	Computer Network Management	Required	201-CCN-4	3	Program
	202-CCN-3	Routing and Switching	Required	201-CCN-4	3	Program
	284-MATH-3	Linear Algebra	Required	No	3	College
Level 5	463-CCN-3	Field Training	Required	60 CR Completed	3	Program

3. Course Specifications:

Insert hyperlink for all course specifications using NCAAA template (T-104)

OneDrive link for all course specifications (Click here)

4. Program learning Outcomes Mapping Matrix:

Align the program learning outcomes with program courses, according to the following desired levels of performance (*I* = *Introduced & P* = *Practiced & M* = *Mastered*).

Course code & No.		Program Learning Outcomes									
		Knowl an underst	edge d anding	Skills						Values, A and Resp	utonomy, onsibility
		K1	K2	S1	S2	S3	S4	S5	S6	V1	V2
					L	evel 1					
111-ENG-4 English Langua Skills 1	age								Ι	Ι	
112-ENG-4 English Langua Skills 2	age								Ι	Ι	
131-TEC-2 Computer Applications	5	Ι	Ι	Ι						Ι	





			Program Learning Outcomes							
Course code & No.	Knowledge and understanding		Skills						Values, Autonomy, and Responsibility	
	K1	K2	S1	S2	S3	S4	S5	S6	V1	V2
121-MAT-3 Introduction to Mathematics	Ι	Ι		Ι						
141-PHY-3 General Physics	М	М	Ι							
				L	evel 2					
116-ENG-3 English for Computer								Ι	Ι	
151-SKL-2 University Life Skills			Ι			М			М	М
122-MAT-4 Introduction to Calculus	Ι	Ι		Ι						
113-ENG-3 General English								Р	Р	
132-TEC-3 Programming Principles										
152-SKL-1 Basics of Entrepreneurship								Ι	Ι	Ι
		1		L	evel 3	<u>.</u>		H	<u>и</u>	
201-CCN-4 Data Communication and Computer Networks	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	
211-CCN-3 Digital Logic Design	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	
Math dept. Advanced Calculus	Р	Ι								
211-CCS-4 Fundamentals of Programming	Ι	Ι	Ι		Ι	Ι	Ι			
101-CIS-2 Digital Skills	Ι	Ι								





	Program Learning Outcomes									
Course code & No.	Knowl an underst	ledge Id anding		Skills					Values, Autonomy, and Responsibility	
	K1	K2	S1	S2	S3	S4	S5	S6	V1	V2
Math dept. Discrete Mathematics	Ι	Ι	М	Ι						
				L	evel 4					
Arabic Lang dept. Language and Writing Skills								Ι	Ι	Ι
Object Oriented Programming	Р	Р	Р		Р	Р	Р	Ι		
332-CCS-3 Operating Systems	Р	Ι	Р		Р	Ι	Ι			
212-CCN-3 Computer Network Management	Р	Р	М	М	М	Р	М	Ι	Р	Р
202-CCN-3 Routing and Switching	Р	Р	М	М	Р	Ι	Р	Ι	Р	
Math dept. Linear Algebra	М	М	М							
				L	evel 5			4	<u>1</u>	
313-CCN-3										
Computer Architecture	Р	Р	М	Р	Р	Р	Р			
331-CCN-3 Fundamentals of Cybersecurity	Р	Р						Ι	Ι	Р
341-CCN-3 Network Analysis and Design	Р	Р	Р		Р	М	Р			
Biology dept. General Biology	Ι	Ι						Ι		
Math dept. Probabilities and Engineering Statistics	М	М	М							
321-CCS-3 Data Structures	Р	Р	Р		Р	Р	Р			
				L	evel 6					





	Program Learning Outcomes										
Course code & No.	Knowledge and understanding			Skills						Values, Autonomy, and Responsibility	
	K1	K2	S1	S2	S3	S4	S5	S6	V1	V2	
351-CCN-3 Concepts of Database Systems	Ι	Р	Р		Р	Р		Р	Р		
332-CCN-3 Network Security	Р	М	Р	Р	М	Р	Р			Р	
303-CCN-3 Network Programming	Р	М	М	Р	Р	М	М	Р	Р	Р	
111-TAQ-2 Muslim Culture 1								Ι	Ι	Ι	
314-CCN-3 Cloud Computing and Distributed Systems	Р	Р	А	Р	Р	Р	Р				
352-CCN-3 Technical Project Management			Р		Р			Р	Р	М	
				L	evel 7	1		1			
112-TAQ-2 Muslim Culture 2								Ι	Ι	Ι	
421-CCN-4 Mobile and Wireless Networks	Р	р	р	р	р	р	р				
403CCN-3 Multimedia Networks and Applications	М	Р	Р	М	М	М	М				
453CCN-3 Artificial Intelligence: Principles and Techniques	М	М	Р	Р	Р	Р	Р				
442-CCN-3 Network Simulation and Modeling	М	М	М	М	М	М	М	Р	Р		
461-CCN-3 Graduation Project 1	М	М	Р		М	М	Р	Р	Р	Р	





		Program Learning Outcomes									
Course code No.	&	Knowledge and understanding		Skills					Values, Autonomy, and Responsibility		
		K1	K2	S1	S2	S3	S4	S5	S6	V1	V2
					L	evel 8					
Arabic Lang dep National Identit	ot. Jy										
462-CCN-3 Graduation Project 2		М	М	М	М	М	М	М	М	М	М
433-CCN-2 Computer Networks Ethic	s								М	М	М
MBA /Educatio [Principles of Management] or [Logic and Critical Thinkin or [The History of Saudi Arabia]	n g] f								Ι	Ι	Ι
422-CCN-3 Internet of Thing	gs	М	Р	Р	Р	Р	Р	Р		Р	Р
443-CCN-3 Selected Topic in Computer Networks	s	М	М	М	М	М	М	М	М	М	Р
					L	evel 9					
463-CCN-3 Field Training	;	М	М	М	М	М	М	М	М	М	М

* Add a separated table for each track (if any).

5. Teaching and learning strategies applied to achieve program learning outcomes.

Describe teaching and learning strategies, including curricular and extra-curricular activities, to achieve the program learning outcomes in all areas.

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and understar	ding	





	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.1	Demonstrate knowledge of computing and mathematics appropriate to computer networking;	• Lecture: The teacher gives concepts theoretically and by applying those to a real-world case study to be discussed using different examples on different	Direct Methods: 1. Course Learning Outcomes assessment (Each Semester) 2. Performance Indicators
1.2	Demonstrate knowledge of network management, which includes the ability to install, configure and troubleshoot computer systems and networking components.	situations.	 Indirect Methods: (once every assessment cycle) <u>Indirect Methods:</u> 1. Exit Survey (Each Semester) 2. Current Student Survey (Each Semester) 3. PAC Meeting and Discussions (Once a Year) 4. Alumni Survey 5. Employer Survey
2.0	Skills		
2.1	Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions. Design, implement, and evaluate a computing- based solution to meet a given set of computing requirements in the context of the networking discipline. Identify and analyze user needs and take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems.	 Lecture: Teacher gives concepts theoretically and by applying those to a real-world case study to be discussed using different examples of different situations. Discussions: the teacher gives an idea to students and asks them to give their viewpoints, as well as, their reasoning regarding it. Cooperative Learning: Teacher divides students into groups who are given problem-based assignments and homework to be submitted on a specified deadline. Student-centered learning should be designed to facilitate the learner in doing, thinking, manipulating, constructing, testing, analyzing and reflecting. Organizing the flow of thoughts. Increasing teaching efficiency by 	 <u>Direct Methods:</u> 1. Course Learning Outcomes assessment (Each Semester) 2. Performance Indicators with a set of rubrics (once every assessment cycle) <u>Indirect Methods:</u> 1. Exit Survey (Each Semester) 2. Current Student Survey (Each Semester) 3. PAC Meeting and Discussions (Once a Year) 4. Alumni Survey 5. Employer Survey



	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
2.4	An ability to use and apply current technical concepts and practices in the core of network technologies including network management, network security, network programming, and network designing.	 use of the software/hardware suitable. Participating in tutorial classes and open labs. Use more real-life examples in the lecture relating to the surroundings of the students to draw attention that certainly helps them to concentrate more on the specific topic 	
2.5	Compare and contrast different technologies used to meet users' requirements, design networks and interconnect networks.	 During laboratory hours all concepts of the theory are discussed through applying them to a case study. During these discussions between the teacher and students regarding open- ended problems are taking place. 	



	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
2.6	Communicate effectively in a variety of professional contexts.	 Website visits. Give an assignment that includes critical problem which can be answered by internet search, reading the provided outcome and to analyses it. Pick one student who fully understood a specific topic and let him describe it in front of the class in his own manner. Recall the topics of last lecture and the critical issues based on different topics, which certainly helps students to recall memory frequently and store that topic in their memory for long term. Before start a new topic or at the end of each topic, students are given couple of minutes to imagine the real life scenarios relating to that topic including implementation, advantages, deficiencies etc. to improve their logical thinking. During laboratory hours all concepts of theory are discussed through applying them to a case study. During this discussion between the teacher and students regarding open-ended problems are taking place. This strengthens both decisions making skills when choosing among a couple of alternatives and communication skills among them because the teacher is expected that all students participate in such discussions. 	
3.0	Values		
3.1	Function effectively as a member or leader of a team engaged in activities appropriate to the networking discipline.	• Lectures in which students are made aware of the significance of time management. Creation of interactive teaching and learning environment.	<u>Direct Methods:</u> 1. Course Learning Outcomes assessment (Each Semester)



	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
3.2	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.	 Discussions with students on ethical behavior in conducting research. Quiz competition among groups. Individual counselling on assignments, research project and subject matter difficulties. Group assignments and discussions where much of the most effective learning comes from the student explaining, discussing and defending her own ideas with his peers. Developing awareness and confidence among students about their interpersonal know-how. Students' counselling and advising. Making students alert about class attendance, timing, cleanliness and manner inside the class. Encouraging a self-critical evaluation of student existing knowledge and behavior pattern in solving problems in classroom. During laboratory hours all concepts of theory are discussed through applying them to a case study. During this discussion between the teacher and students regarding open-ended problems are taking place. This strengthens both decisions making skills when choosing among a couple of alternatives and communication skills among them because the teacher is expected that all students participate in such discussions. 	 Performance Indicators with a set of rubrics (once every assessment cycle) <u>Indirect Methods:</u> Exit Survey (Each Semester) Current Student Survey (Each Semester) PAC Meeting and Discussions (Once a Year) Alumni Survey Employer Survey

6. Assessment Methods for program learning outcomes.

Describe assessment methods (Direct and Indirect) that can be used to measure the achievement of program learning outcomes in all areas.

The program should devise a plan for assessing Program Learning Outcomes (all learning outcomes should be assessed at least twice in the bachelor program's cycle and once in other degrees).





Formative Assessment.

- Formative assessments are ongoing assessments, reviews, and observations in a classroom and or within an academic year or pre-determined time.
- We should use formative assessment to improve instructional methods and student feedback throughout the teaching and learning process.
- The goal of formative assessment is to monitor student learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to enhance their learning.
- Examples of formative assessment are quizzes, assignments, midterms, etc. It will be used in levels 3 to 6.

Summative Assessment.

- Summative assessments are typically used to evaluate the effectiveness of instructional programs and services at the end of an academic year or at a pre-determined time.
- The goal of summative assessments is to make a judgment of student competency after an instructional phase is complete.
- The goal of summative assessment is to evaluate student learning at the end of an instructional unit by comparing it against some standard or benchmark.
- Examples of summative assessment are final exams, nationwide Tests, and it will be done from levels 7 and 9.

D. Student Admission and Support:

1. Student Admission Requirements

Student admission for Computer Networks (CN) program is performed electronically through <u>EDUGATE</u>, supervised by the Deanship of Admissions and Registration. Students, who want to be admitted to the program of Computer Networks (CN) Najran University, should satisfy the following requirements:

- The student shall only be admitted to the University upon the calculation of his/her average as follows: 30% general aptitude, 30% achievement test and 40% general secondary (academic) if the student wishes to enroll in the preparatory year.
- Students of the natural sciences (the scientific section) who obtained a balanced ratio of not less than 80% will be admitted at the preparatory year according to the available seats. Those who obtained high rates will be admitted gradually until the end of seat. When the seats are over, admission





is given to those who are consistent with the terms and conditions, and they should pay the fee (balanced education) upon to the decision of the university council in this regard.

- After preparatory year, students can choose one of the following colleges: College of Medicine, College of Dentistry, College of Pharmacy, College of Applied Medical (the departments of Physiotherapy, Medical Laboratories, Radiology, and Nursing), College of Engineering (the departments: Civil Engineering and Electrical Engineering), College of Computer Science and Information Systems, or College of Administrative Sciences (the department of Business Administration).
- The student should have obtained the general secondary certificate or its equivalent from the Kingdom or abroad.
- No more than two academic years should have elapsed from the date of his/her obtaining such certificate or its equivalent.
- The student should have good conduct and proper behavior.
- The student should successfully pass any exam or personal interview (if found).
- The student should be medically fit.
- The student should obtain approval from his authority to pursue his/her studies, if s/he works for any governmental or private body.
- The student should not have been expelled from Najran University or any other university for academic or disciplinary reasons.
- After the student is admitted, if it turns out that he/she has already been expelled for disciplinary or academic reasons, his/her admission shall be considered as void.
- The student meeting the requirements should present the documents stipulated by the Deanship of Admission and Registration at the University.
- The student should not be enrolled for another university degree at the same university or at another university and should not have already obtained such degree.
- Files of students who are late for admission tests (if found) shall be ruled out.
- Files of students who are late for personal interviews (if found) and do not present an acceptable excuse shall be ruled out.
- Students who are late in carrying out the admission procedures within the deadline set by the University, and who do not present an excuse acceptable by the Deanship of Admission and Registration shall have cancelled their admission.
- Students who are degree awarded (diploma certificate) from NU community college could be admitted to CN program through a system called, Bridging





System, if they meet some requirements. Requirements for joining the Bridging System (Complementary and Transitional) are described publicly <u>here</u>.

 All admission information for Information Systems program is described publicly in a clear and understandable way on the program websites, including admission requirements, <u>policies</u> and <u>procedures</u>.

2. Guidance and Orientation Programs for New Students

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

At the beginning of each semester, the College of Computer Science and Information Systems CSIS arranges a comprehensive orientation program for prospective students to ensure a thorough understanding of program requirements, the range of services and facilities available for them, and their code of conduct and their rights & responsibilities. Student appeal and complaint procedures are made widely known at the time of orientation. The College of CSIS developed different case-specific academic appeal templates to make clear ground of academic appeals. These appeal and complaint procedures protect against timewasting on trivial issues, but still provide adequate opportunity for matters of concern to students to be fairly dealt with and supported by student counselling provisions. Appeal and complaint procedures guarantee impartial consideration by persons or committees independent of the parties involved in the issue, or who made a decision or imposed a penalty that is being appealed against. Procedures have been developed to ensure that students are protected against subsequent punitive action or discrimination following consideration of a complaint or appeal. For CN program, appropriate policies and procedures are in place to deal with academic misconduct, including plagiarism and other forms of cheating.

3. Student Counseling Services

(Academic, professional, psychological and social)

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

The <u>Academic Advising Unit</u> (AAU) of CN program governs by the College of CSIS aimed to provide absolute guidance to the students through efficacious counselling regarding students' academic and personal difficulties. This service is currently internally to academic concerns. Students are formed in a group according to their student ID and each group has been assigned to an academic advisor to ensure that





all students get academic counselling throughout the program. Almost all faculty members of the program are playing a role as an academic advisor as a part of their job responsibilities by following the guidelines set by academic advising unit and being monitored by the coordinator of this unit. At present, separate time for student advising in academic advisors' timetable has been implemented and 4 hours have been allotted during the week for Academic advisors to schedule. Each newly enrolled student is encouraged to meet his/her academic advisor and open a student file which should be kept and maintained by academic advisor as record. This file should reflect student progress mainly concerning student's results. Academic advisors write a summary report on each student's progress and based on this progress report, at the end of each semester, academic advisors produce a subject plan for the coming semester for each advise student. After preparing a subject plan for a student, academic advisors are accountable to forward this plan to the academic advising unit and in parallel consult with the student about the proposed subject plan the graduating/higher level (level 7,8,9) students depending on the student's' necessity. For us along with their expected graduation time frame (part of their program plan). Counselling on career planning takes place mostly for the graduating/higher level (level 7, 8, and 9) students depending on the students' necessity. For this program, Students' academic appeals are mainly categorized by the form of 'Add/drop courses, absent excuses, Rechecking of exams and make up exams. Apart from these academic appeals, other appeals are also considered by the academic advising units by an adopted mechanism. Each student is accountable to place an appeal through his/her academic advisor using case specific appeal form. All appeal forms are available on the university's website from where students can fetch. These forms are also available from academic advisors. Academic advisors are accountable to consult with the student in detail to spot students' need and provide guidance to fill out the appeal form. During this consultation process, academic advisors are responsible to fetch necessary records from the corresponding student file to support his/her opinion.

When an appeal has been finalized and submitted by the student, academic advisors are accountable to attach necessary supporting documents such as student's transcript, medical excuses, add/drop form etc. with this appeal and forward this appeal to the academic advising unit through the University's <u>Correspondence Tracking System</u> CTS for further processing. The coordinator of academic advising unit is accountable to check the completeness and to verify the ground of each appeal based on university's regulations, college rules and program requirements. If an appeal complies with all requirements, it has been carried forward to the decision-making authority (Dean of the college), or else it has been returned to the correspondent academic advisor.





The decision-making authority provides a decision on the majority appeal cases by seven days that appear in different places/format depending on the nature of the appeal. All the appeals are automated and hence it facilitates the Advisee student to send their appeals through the system and this has been implemented from the second semester, 2019-2020.

Successful appeal for rechecking of the exam is forwarded to the college coordinator. The college coordinator is accountable for forming an evaluation committee and sending the review request to that committee. The evaluation committee should consist of at least three people (i.e., Program coordinator, subject coordinator, member of that subject's knowledge group) and is accountable to provide the outcome within three days.

The College of CSIS also developed a system to handle students' complaints. Complaints usually are categorized in forms of general complaints, blind box complaints and direct E-mail.

Complaints: General complaints made by students have no specific allegation and normally related to classroom facilities, difficulties with class schedule etc. To make this type of complaint, students must visit their academic advisors and discuss their issues. Academic advisors will pass the students' complaints to the academic advising unit coordinator. The coordinator will review the complaint and if necessary, will pass it to the college council. The college council will pass the decision to the academic advising unit's coordinator and finally the decision will reach the academic advisor to notify the students about their complaint outcomes. Blind Box complaints are normally cased specifically with pointed allegations and handled with high confidentiality. There is a specific template/form for this type of complaint. The college provided a complaint and suggestion box at the ground floor of College of Computer Science and Information System building (besides Dean's office) with the specified forms. Students write down their complaints and suggestions in the suggested form and drop them in the complaint box. The box is usually opened on the 25th of each month by the complaint handling committee and passes the complaints (if any) to the college council for further action. In Direct E-mail complaints, students from female campus are allowed to complain directly to the Dean of the college through a specified E-mail address and this kind of complaint is highly confidential and in this case Dean of the college takes the decision directly.

In the end, Student Advising and Counselling services of our program currently internally to academic concerns. At present, we do not have facilities to provide counselling regarding students psychological/health problems, financial matters, and family problems, but we transfer them to <u>Deanship of Student Affairs</u>.





4. Special Support

(Low achievers, disabled, gifted, and talented students).

Academic Advising Unit has set collaboration with Activities Unit in CN program to support gifted, creative, and talented students. They offered extracurricular activities in a variety of fields to develop their abilities and skills. The CN program also takes appropriate actions to support and motivate their participation by encouraging them to participate through E-mails and announcements in advertisements board. At the end of term, College of Computer Science and Information Systems honored its students who participate in activities and others. Academic Advisors are responsible for dealing with high and low achiever students and give them help and support. Each advisor must prepare a file for each student which contains a biography of the student during his studies at the university (student's behavior during the study, Student's activities, Student's marks, and grades etc.), from where the College authority can make assessment about the students and face their problems and find appropriate solutions. The most important contents of the file are student's personal data, the student timetable for the semester, the student academic transcript, student midterms marks, the students follow up courses, the Drop/Add courses for the students, the attendance and absence sheet for students and their excuses and others.

Advisors also study the irregular students' status to assist them in achieving the desired success and help them overcome the obstacles and problems they face and put the students on their plan.

Najran University adopted a system that allows its students with special needs to register into the system called Students with Special Needs to keep up their records and provide <u>support and educational counselling</u>. The CS program as a part of Najran University employs all the human and material resources available to meet the needs of all students with special needs.

E. Faculty and Administrative Staff:

1. Needed Teaching and Administrative Staff

Academic Bank		Specialty	Special Requirements / Skills (if any)	Required Numbers			
Капк	General	Specific	/ Skills (if any)	М	F	Т	





Professor	Computer Networks	Network architecture and protocols	-	1	0	1
Associate Professor	Computer Networks	Network architecture and protocols		2	1	3
Assistant Professor	Computer Networks	Network architecture and protocols/Manageme nt of network systems and cloud computing/Network security/Wireless networks and the Internet of things/Network design and analysis		5	4	9
Lecturer	Computer Networks	Network security		2	2	4
Teaching Assistant	Computer Networks	Network design and analysis		2	2	4
Technicians and Laboratory Assistant	Computer Networks	Servers		1	1	2
Administrative and Supportive Staff	Computer Networks	Information retrieving and Data Mining		1	1	2
Others (specify)						

F. Learning Resources, Facilities, and Equipment:

1. Learning Resources

Learning resources required by the Program (textbooks, references, and e-learning resources and web-based resources, etc.)

There is a yearly request for the learning resources needed in this program, where the instructors can request the books for courses they teach.

• The University is part of the Saudi digital library.



- The college has its digital library that has more than 16GB of learning resources.
- There is a survey that is conducted yearly for the students and teaching staff to get the evaluation and level of satisfaction of learning resources.

The Textbook & Purchase Committee in the College of CSIS plays a pivotal role in acquiring learning resources and provides the mechanism to ensure the regular faculty input regarding the availability of the learning materials such as textbooks and reference materials for learning and teaching and to ensure the adequacy of the learning materials for the end-users.

The students assess the adequacy of textbooks, reference, and other learning resources through university course online survey for courses which they enrolled in. More specifically, the students give their opinions if textbooks and references:

- Are consistent with the objectives and outcomes of the course.
- Are well organized.
- Contain the appropriate graphical representation.
- Are available in the library of the university.

Apart from this survey one more faculty and student unified survey is conducted online to evaluate the adequacy of textbooks, reference and other learning resources needed by both the faculty and students.

2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

The Prince Mishaal Bin Abdullah Central Library in Najran University (NU) offers collections of books and references related to the Computer Network Program. The library focuses on serving the students, faculty and securing diverse sources of information that includes books, scientific references and periodicals. The Prince Mishaal Bin Abdullah Central Library has well established automated services and organizing system. The main library is open from 8 a.m. to 5 p.m. on all working days. Open Lab hours are provided as extended hours for students' reading and project work activities on all working days from 8:00 AM to 6:00 PM for the male section and 8:00 AM to 2:00 PM for the female teaching staff. Labs are equipped with high-speed internet facilities with continuous service and offer flexibility to download learning materials from the internet and to access e-books. Moreover, e-library offered by the Deanship of Library Affairs web portal and the Blackboard Learning System is available to acquire the learning materials all the time. There are about 5191 books in the library related to Computer Science, Information





Systems and Computer Networks. There are well-defined procedures to borrow books from the library for the teaching staff and the students. The maximum number of books that the teachers and the students can borrow at a time is 3 and 10 respectively for a period of 3 months and 14 days respectively. Automated self-check systems are available to search and to borrow books by producing the University ID card.

In the female campus, the college library is in room no: B-093 on the first floor of the College of Education building. Female teaching staff and the students are allowed to access the books and other resources such as graduation project reports. The library consists of more than 600 books in the various disciplines of ICT. The student can borrow the books and can use the books to read in the library from 8:00 a.m. to 2:00 p.m. on all working days.

The college through the university administration has provided the faculty members' access to <u>Saudi Digital Library</u> (SDL) that provides an international database of journals, papers, and books for updated information which could be useful to enhance the teaching and research.

There is an open lab in the college with two computers that contain up to 25,000 eBooks (~ 162 GB). All staff members and students can access these two machines from anywhere on the campus.

At present, the college has a collection of 168 GB (Gigabyte) of data which contain which contains 119,779 e-books in the form of PDF of different courses related to the programs offered by the three major programs: Computer Science, Information Systems and Computer Networks. All faculty members and students at the college have the right to access e-books and read within the campus through local area networks.

Facilities and Resources Committee (FRC) with other committees in the department evaluate the adequacy of resources and classrooms through surveys and discussions with faculty members and students once a year. According to the evaluation results, a report is then sent to the college's administration unit for further action.

The College of CSIS has 11 Labs with 25 computers in each lab, 375 computers in the male department, 220 in the female department six old labs with 25 computers in each lab that is 150 computers, and four new labs with 35 computers in each lab that is 140 computers. In this way, the departments of CSIS (male and female together) have 596 computers. All the computer terminals are installed with the needed software for the program and are updated every academic year.

The labs in college are equipped with enough number of computer terminals and up-to-date software required in the program. There is a functional open lab with Internet connectivity which is available for students on all working days.





All classrooms in the College of CSIS have a whiteboard, a digital podium, a projector, Internet connectivity and enough seating arrangement for students.

3. Procedures to ensure a healthy and safe learning environment

(According to the nature of the program)

There are several essential units under the Vice President of Najran University that oversee the daily management of all the University facilities. These units include cleaning waste disposal, maintenance, safety, and environmental management. There is a Security and Safety unit in Najran University which is concerned with implementing plans and procedures to preserve the worksites from any obstacle and ensure security. This unit ensures the application of safety and security regulations to protect employees, staff, students and properties within the University campuses The College of CSIS has well-defined policies to meet the safety requirements and adequate provisions for the security of the faculty, staff, and students. A comprehensive sprinkler system is installed in all classrooms, labs, and office spaces. Moreover, all buildings have fire extinguishers and first aid kits.

G. Program Quality Assurance:

1. Program Quality Assurance System

Provide a link to quality assurance manual.

Quality assurance manual is available in this link.

2. Procedures to Monitor Quality of Courses Taught by other Departments

In compliance with the annual plan of the Development &Quality Unit (DQU) for the year 2022-2023, the Najran University College of Computer Science and Information Systems developed a well-defined mechanism to arrangements and monitor the quality of courses taught by other departments through the dedicated unit in the faculty called the unit coordination of external courses.

3. Procedures Used to Ensure the Consistency between Main Campus and Branches (including male and female sections).

• Determine Course Coordinator for each course which follows the progress of the course, Mid exams, and final exam structure and question with CLOs in the male and female section.





- The same syllabus taught in the male and female section of each course.
- In the courses containing a practical aspect applies the same Manual lab in both sections.
- The NCAAA standards committees contain members from the male and female staff and conduct regularly meeting and contacting.
- Meetings are conducted for both sections to discuss matters related to quality assurance of work or to clarify the mechanisms followed. Also determine one hour (as for example Monday 11:00 AM -12:00PM) weekly for a Meeting if needed in the timetable for each faculty member in both sections.
- Sometimes a workshop is held in both sections as parallel if there are some works that require explanation, clarification, and application with some practical examples.
- All staff members (Male and Female) are involved in at least one committee to evaluate all aspects of the program. These committees are responsible for all activities regarding planning, monitoring and reviewing.

4. Assessment Plan for Program Learning Outcomes (PLOs),

Computer Networks Program will use a well-developed assessment plan to assist the program learning outcomes in every domain of learning Quality development and its improvement of the program is directly controlled and managed by the university higher authority in form of University's President's undeviating involvement along with the deanship of development and 9quality's relentless supports, monitoring, and commitment to establish quality culture.

The DQU of the college, which is controlled by the quality council, presided by the dean of the College, has formed numerous committees and sub-committees which include representatives from program's administrators, faculty members, and other staff members. Direct involvement of all the academic and administrative staffs of the program creates a generous quality environment in the college as well as in the department that supports further development, control, and improvement of the quality culture within the program. Committees and sub-committees of the DQU of the program supports and advice on mechanism, policies, procedures, management, and implementation of activities and tasks related to quality control and improvement in the program.

Improvements in quality are appropriately acknowledged and great achievements recognized. Faculty members are involved in the quality improvement processes and their participation is required in all sorts of activities. Seminars, workshops, training programs relating to quality have been provided by Deanship for





development and quality, and also the program's internal DQU unit that ensures continued quality monitoring.

5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Leadership	Faculty	Survey	End of academic year
Effectiveness of teaching & assessment	Students, Faculty	Survey	End of semester
Learning resources	Students, Faculty	Survey	End of semester

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, services, partnerships, etc.)

Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others.

Evaluation Methods (e.g., Surveys, interviews, visits, etc.)

Evaluation Time (e.g., beginning of semesters, end of the academic year, etc.)





6. Program KPIs*

The period to achieve the target (_____) year(s).

No	KPI	Target ed Value	Actual Value	Interna I Bench mark	Analy sis	New Target
KPI-P- 01	Students' Evaluation of quality of learning experience in the programs	80% (4.00 on a 5-point scale)	Not applicable. There are not yet any graduate students in the program.			
KPI-P- 02	Students' evaluation of the quality of the courses	85% (4.25 on a 5-point scale)	89.1 % (4.455 on a 5- point scale)	86.4% (4.32 on a 5-point scale)	KPI target achieve d.	85% (4.25 on a 5-point scale)
KPI-P- 03	Completion Rate	N/A	Not applicable. There are not yet any graduate students in the program.			
KPI-P- 04	First-year student retention rate	90%	90.91%	74%	KPI target achieve d.	90%
KPI-P- 05	Student's performance in the professional and/or national examinations	N/A	Not applicable. There are not yet any graduate students in the program.			
KPI-P- 06	Graduates' employability and enrolment in postgraduate programs	90%	Not applicable. There are not yet any graduate students in the program.			
KPI-P- 07	Employers' evaluation of the program gradu ate's proficienc y		Not applicable. There are not yet any graduate students in the program.			



No	KPI	Target ed Value	Actual Value	Interna I Bench mark	Analy sis	New Target
KPI-P- 8	The ratio of students to teaching staff	1:20 (teaching staff: students)	1: 20	1:16	KPI target achiev ed	1: 20
KPI-P- 9	Percentage of publications of faculty members	≥ 50%	100%	52.50%	KPI target achiev ed	≥ 60%
KPI-P- 10	Rate of published research per faculty member	2:1 (publicat ion: faculty member)	23.5 :1	1.82 :1	KPI target achiev ed	2:1 (publication: faculty member)
KPI-P- 11	Citations rate in refereed journals per faculty member	4:1 (No. of Citation: Faculty member)	66: 1	2.32: 1	KPI target achiev ed	4:1 (No. of Citation: Faculty member)

Comments on the Program KPIs and Benchmarks results:

The Computer Networks (CN) Program adopted the all 11 KPIs out of the 11 KPIs stated by NCAAA. The table above shows that out of the 11 KPIs adopted by the CN Program, 6 KPIs have achieved their targets. Four KPI reports are not prepared because they are not applicable, as they require graduate students, such as the KPI on "Graduates' employability and enrolment in postgraduate programs."

Strengths:

- For the 6 KPIs that have achieved their targets, this is the Strengths report:

This report analyzes the strengths of the Key Performance Indicators (KPIs) achievements. Each KPI reflects a critical aspect of performance, aiming to highlight the effectiveness of various initiatives and strategies implemented.

Key Performance Indicators and Strengths

KPI 2: Students' Evaluation of the Quality of the Courses

- Targeted Value: 80%
- Actual Value: 86.4%
- Strengths:
 - **Exceeds Expectation:** Achieving 86.4% indicates that students evaluated the courses more favorably than the target value.





No	KPI	Target ed Value	Actual Value	Interna I Bench mark	Analy sis	New Target
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• **High Satisfaction:** This high rating suggests robust course quality, curricula designed to meet students' needs, and effective teaching methodologies.

KPI 4: First-Year Student Retention Rate

- Targeted Value: 90%
- Actual Value: 90.91%
- Strengths:
 - Slightly Exceeded Target: A retention rate of 90.91% is slightly above the targeted 90%.
 - **Student Engagement:** This reflects effective student engagement strategies, support systems, and a welcoming campus environment that encourages students to continue their studies.

KPI 8: The Ratio of Students to Teaching Staff

- Targeted Value: 1:20
- Actual Value: 1:20
- Strengths:
 - **Target Met Precisely:** Maintaining the targeted ratio ensures manageable class sizes and personal attention to students.
 - **Resource Allocation:** It indicates effective allocation of teaching resources and support for student learning.

KPI 9: Percentage of Publications of Faculty Members

- Targeted Value: $\geq 50\%$
- Actual Value: 100%
- Strengths:
 - **Outstanding Achievement:** Achieving 100% publication rate is highly commendable and indicates a strong research culture.
 - **Faculty Excellence:** This suggests faculty members are highly productive and actively contributing to their fields.

KPI 10: Rate of Published Research Per Faculty Member

- **Targeted Value:** 2:1 (publication: faculty member)
- Actual Value: 23.5:1
- Strengths:
 - **Exceptional Performance:** Significantly surpassing the target by such a large margin (23.5 publications per faculty member) underlines an extraordinary level of research output.





No	KPI	Target ed Value	Actual Value	Interna I Bench mark	Analy sis	New Target
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[•] **Research Impact:** This level of productivity likely enhances the institution's reputation and research impact in the academic community.

KPI 11: Citations Rate in Refereed Journals Per Faculty Member

- **Targeted Value:** 4:1 (No. of Citation: Faculty member)
- Actual Value: 66:1
- Strengths:
 - **Remarkable Achievement:** A citation rate of 66:1 far exceeds the target, indicating that the publications are not only numerous but also of high quality and influence.
 - Scholarly Recognition: This high citation rate signifies substantial recognition from peers and impact in respective research areas.

Conclusion

The analysis of these KPIs shows outstanding strengths in several areas. Overall, the actual values not only meet but in many cases greatly exceed the targeted values, demonstrating strong performance. The achievements highlight the effectiveness of the strategies and initiatives implemented and reflect a commitment to excellence in education, research, and overall institutional quality.

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Weakness:

- Preparing posters that need to be circulated to the college students to introduce them to programs and their academic conditions.
- A report submitted on each lab, for the current condition, that list of the minimum requirement in technology needs but still waiting for the department of information technology to fulfill the requests and process the comments submitted to them.
- Checking the department's website frequently and posting any news or information that can be beneficial to the faculty or the students.
- KPI 8 (the ratio of students to teaching staff) will not be achieved next year if no new faculty members are hired.

Priorities for improvement:

- Need to follow-up the department of information technology to process the request submitted for the current condition of lab and to fulfill the minimum requirement for each lab.





No	KPI	Target ed Value	Actual Value	Interna I Bench mark	Analy sis	New Target
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- Hire additional faculty to ensure the student-to-teaching staff ratio meets the targeted value. Begin recruitment process promptly to have new faculty in place by the start of the next academic year.

*including KPIs required by NCAAA

H. Specification Approval Data:

Council / Committee	Network and Communications Engineering Department Council				
Reference No.	14450824-0482-00014				
Date	5/3/2024				

