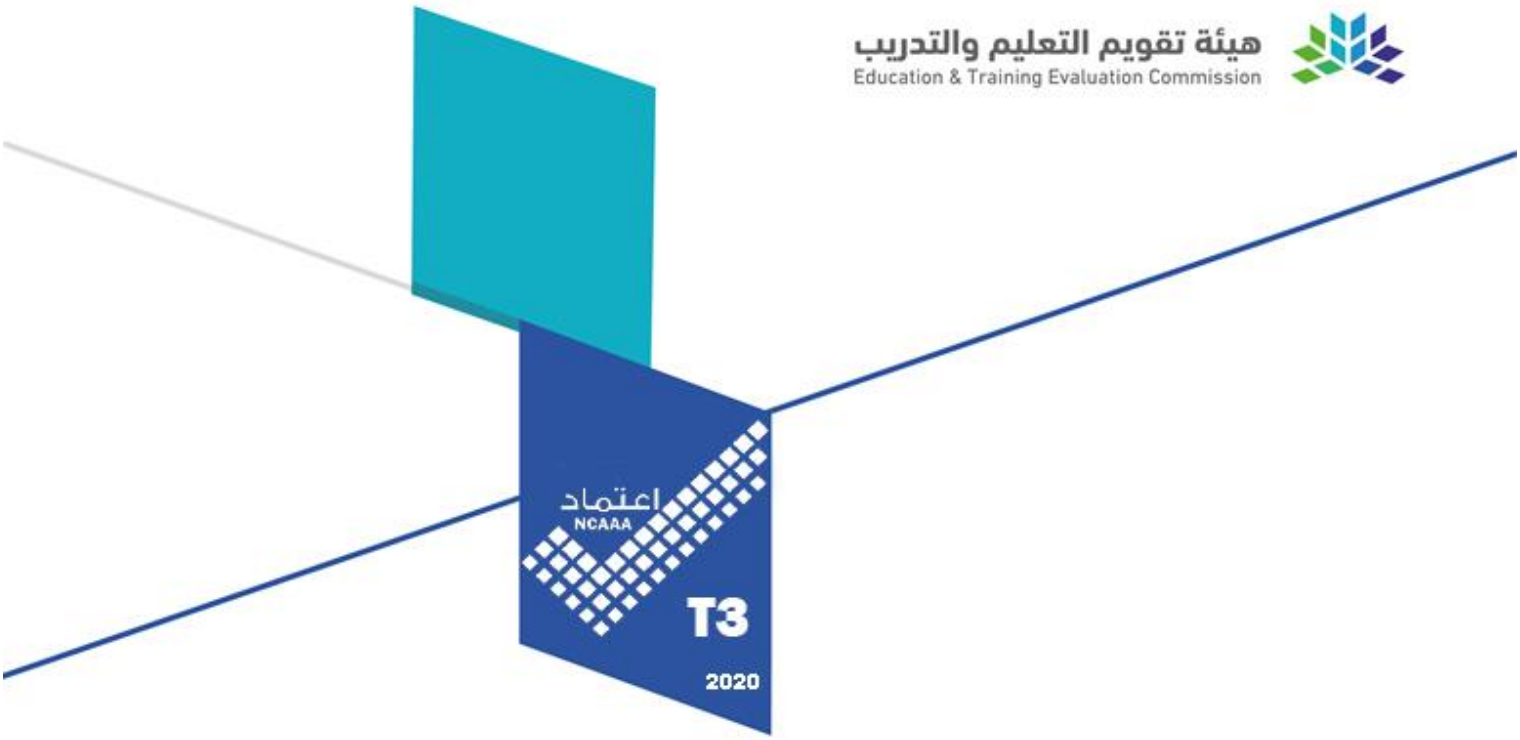
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Program Specification

Program Name: Computer Science
Qualification Level: Bachelor Degree
Department: Computer Science
College: College of Computer Science & Information Systems
Institution: Najran University

Content

A. Program Identification and General Information

1. Program Main Location:

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

2. Branches Offering the Program:

The program is offered at Najran University (Najran) in two campuses, male and female.

Branch/Location 1:

Male Campus, Najran University, Najran, Saudi Arabia, P.O. Box 1988

Branch/Location 2:

Female Campus, Najran University, Najran, Saudi Arabia, P.O. Box 1988

3. Reasons for Establishing the Program:
(Economic, social, cultural, and technological reasons, and national needs and development, etc.)

The College of Computer Science and Information Systems at Najran University was established in 1427H, starting with only two departments that consist of two programs: Computer Science and Information Systems programs. The Computer Science (CS) program plays a vital role in the field of Computer and Information Technology to participate in building a strong local industry market, to keep up-to-date of technological developments, and to meet the requirements of higher education in our country.

The Computer Science program is considered one of the modern and renewable specialties. It plays an important role in building modern societies with strong economies and can help in advancing the country rank placing it among the industrialized and technical countries of the 21st century. Furthermore, it is one of the most innovative and fast-changing scientific fields that assist professionals to be familiar with ever-changing technical information.

Computer Science is a discipline of interest and demand locally in Saudi Arabia, regionally in the Middle East and internationally worldwide. Currently, there is a high demand for computer professionals who can design and implement computer systems and networks. The Kingdom of Saudi Arabia has focused on computer technology and its utilization as one of the fundamental tools to modernize its industry to cope up with advances in modern technology. It is, therefore, mandatory to prepare highly qualified computer scientists who are capable of mastering the last advances in such a rapidly growing technology.

Acting based on motivations mentioned above, the CS program seeks to place the College among the leading colleges in Najran University and the Kingdom of Saudi Arabia. Doing so can only be achieved by its active contribution in providing graduates with high

academic capabilities in the fields of information systems. The CS program works to equip its graduates with adequate and appropriate information that helps them pursue distinguished positions in organizations related to specialization. They also continue developing their knowledge to keep up with developments in the field as well as in the fields of research, professional development and interpersonal skills that support the priorities of the Kingdom in terms of scientific, industrial and economic fields as well as raising the artistic level of the technical community in the field of informatics.

For the Computer Science (CS) program, the degree title for those students who satisfactorily complete the program is the Bachelor of Science in Computer Science. More details about the program are available on the department website at:
https://cscis.nu.edu.sa/computer_science

The CS program has been repeatedly revised to account for the dynamic growth in the local market as well as the international advancements in the computer resources fields.

4. Total Credit Hours for Completing the Program: (152 Credit Hours**)**

27 (Preparatory Year) +125 (Four years) = 152 Credit Hours

5. Professional Occupations/Jobs:

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

1. Human resource management
2. Computer programmer
3. Database designer and administrator
4. Network administrator and software developer
5. System administrator and programmer
6. Basic researcher
7. Teaching profession
8. Industrial data processing.
9. Quality engineers
10. Software architect
11. Computer system analyst for enterprise

6. Major Tracks/Pathways (if any)**:**

Major track/pathway	Credit hours (For each track)	Professional Occupations/Jobs (For each track)
1. N/A	N/A	N/A
2.		
3.		
4.		

7. Intermediate Exit Points/Awarded Degree (if any)**:**

Intermediate exit points/awarded degree	Credit hours
1. N/A	N/A
2.	
3.	

B. Mission, Goals, and Learning Outcomes

1. Program Mission:

To provide quality education through a well-designed computer science learning experience that prepare students for professional careers, lifelong learning, research and serving the community in a professional manner

2. Program Goals:

1. To enhance students computing capabilities by acquiring knowledge and concepts of computer science.
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 for continuously attaining lifelong knowledge of computer science through higher education, research and emerging new technologies.

3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

Relationship between CS program mission with the mission of Najran University

The mission of Najran University is:

"Offering teaching and learning that address the needs of society and the labor market; effective contribution to sustainable development through conducting applied research and optimal use of modern technologies; and establishing partnerships at the local, regional and global levels"

The vision and mission of NU are posted on its web site at:
https://www.nu.edu.sa/en/university-mission

The mission of the university (Najran University) focuses mainly on 3 elements as follows:

1. Distinctive education that meets the needs of society and the labour market.
2. Contribute effectively to sustainable development through applied research, the optimal use of modern technologies.
3. The active partnership at the local, regional and global levels.

The mission of computer science (CS) Program

"To provide quality education through a well-designed computer science learning experience that prepare students for professional careers, lifelong learning, resaerch and serving the community in a professional manner"

The mission of the Computer Science program is posted on its web site at:

https://cscis.nu.edu.sa/en/computer-science

This mission of the CS program focuses mainly on three elements as follows:

1. To provide quality education through a well-designed computer science learning experience.
2. To prepare students for professional careers and lifelong learning.
3. To prepare the students to serve the community in a professional manner

The mission of CS program is consistent and supports the mission of the institution. The following matrix shows the alignment between the mission of the program and the mission of the institution:

The Mission of the CS Program is:	**Main Elements of the Mission of Najran University**		
	Distinctive education that meets the needs of society and the labor market	Contribute effectively to the sustainable development through applied research, the optimal use of modern technologies	The active partnership at the local, regional and global levels
To provide quality education through a well-designed computer science learning experience.	√		
To prepare students for professional careers, lifelong learning and research.		√	√
To prepare the students to serve the community in a professional manner			√

Relationship between CS program goals with the goals/strategic objectives of Najran University

Najran University has following 12 goals;

1. Achieving academic programs that can compete internationally within the framework of Islamic values.
2. Graduating distinguished students with great efficiency for the future.
3. Promoting the competencies and efficiency of the teaching staff.
4. Enhancing and investing in university facilities as well as utilizing new

technologies.

5. Improving learning resources in line with the universal standards.
6. Providing excellent services and support for students.
7. Developing the financial and administrative systems according to the total quality standards.
8. Securing a prosperous professional future for the alumni.
9. Developing academic research policy to support sustainable development.
10. Improving Post-graduate programs.
11. Continuous and effective commitment to community service.
12. Establishing a framework for national, regional and global cooperation and partnership.

The strategic objectives of NU are posted on its web site at: https://www.nu.edu.sa/en/university-mission

The goals of the Computer Science program are as follows:

1. To enhance students computing capabilities by acquiring knowledge and concepts of computer science.
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 for continuously attaining lifelong knowledge of computer science through higher education, research and emerging new technologies.

The goals of the CS program are consistent and support the six goals/strategic objective among 12 goals of the institution. The following matrix shows the alignment between the goals of CS program and the goals/strategic objectives of the institution.

Goals/Strategic Objectives of Najran University	**Goals of Computer Science Program**			
	To enhance students computing capabilities by acquiring knowledge and concepts of computer science.	To prepare students for the job market by strengthening their problem solving and professional skills.	To contribute towards the community as a part of a team or individually with accountable, legal, ethical and responsible practices.	To encourage students for continuously attaining lifelong knowledge of computer science through higher education, research and emerging new technologies.
Achieving	√	√		√

academic programs that can compete internationally within the framework of Islamic values.				
Graduating distinguished students with great efficiency for the future.		√	√	√
Promoting the competencies and efficiency of the teaching staff.				
Enhancing and investing in university facilities as well as utilizing new technologies.				
Improving learning resources in line with the universal standards.	√	√		
Providing excellent services and support for students.				
Developing the financial and administrative systems according to the total quality standards				
Securing a prosperous professional future for the alumni.				√
Developing academic research policy to support				√

sustainable development.				
Improving Post-graduate programs				
Continuous and effective commitment to community service.			√	
Establishing a framework for national, regional and global cooperation and partnership.				

4. Graduate Attributes:

Following are the graduate attributes

- Professional in computer science.
- Knowledgeable in completer science.
- Problem Solver.
- Lifelong learner.
- Effective communicator.
- Team leader/player

5.Program learning Outcomes*

Knowledge and Understanding	
K1	An ability to demonstrate the knowledge of computing and mathematics appropriate to the discipline.
K2	An ability to identify security, privacy and social issues in computing practices
Skills	
S1	An ability to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
S2	An ability to design, implement and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
S3	An ability to analyze the local and global impact of computing on individuals, organizations and society
S4	An ability to use current techniques, skills, and tools necessary for computing practice.
S5	An ability to apply computer science theory and software development fundamentals to produce computing-based solutions. [CS]
Values	

V1	An ability to function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
V2	An ability to communicate effectively in a variety of professional contexts.
V3	An ability to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

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

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	6	12	7.89%
	Elective			
College Requirements	Required	8	26	17.10%
	Elective			
Program Requirements	Required	21	64	42.67%
	Elective			
Capstone Course/Project	Required	2	5	3.29%
Field Experience/ Internship	Required	1	4	2.63%
Science	Required	4	14	9.21%
Preparatory Year	Required	13	27	17.76%
Total		**55**	**152**	**100%**

* Add a table for each track (if any)

2. Program Study Plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 1	140MATH-2	Introduction of Mathematics	Required	No	2	Preparatory Year
	140ENG-2	Reading Skills	Required	No	2	Preparatory Year
	141ENG-2	Writing Skills	Required	No	2	Preparatory Year
	142ENG-2	Listening and Speaking Skills	Required	No	2	Preparatory Year
	143ENG-2	Grammar	Required	No	2	Preparatory Year
	140SKL-2	Learning, Thinking and Research Skills	Required	No	2	Preparatory Year
	140TEC-2	Computer Skills 1	Required	No	2	Preparatory Year
Level 2	150MATH-4	Calculus 1	Required	140MATH-2	4	Preparatory Year
	150ENG-3	General English	Required	No	3	Preparatory Year
	151ENG-2	Technical Report Writing	Required	No	2	Preparatory Year

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	150MAAN-1	Professional Ethics	Required	No	1	Preparatory Year
	150SKL-2	Communication Skills	Required	No	2	Preparatory Year
	150TEC-1	Computer Skills 2	Required	140TEC-2	1	Preparatory Year
Level 3	104PHYS-4	Principles of Physics	Required	No	4	Science
	282MATH-3	Calculus 2	Required	No	3	College
	211CCS-4	Fundamentals of Programming	Required	No	4	College
	111ISL-2	Introduction to Islamic Culture	Required	No	2	Institution
	201ARAB-2	Arabic Language Skills	Required	No	2	Institution
Level 4	286MATH-3	Calculus 3	Required	282MATH-3	3	Science
	112ISL-2	Islamic Culture 2	Required	No	2	Institution
	212CCS-4	Object Oriented Programming	Required	211CCS-4	4	College
	283MATH-3	Discrete Mathematics	Required	No	3	College
	231CCS-4	Computer Organization and Architecture	Required	No	4	Department
Level 5	113ISL-2	Islamic Culture 3	Required	No	2	Institution
	101BIOL-4	General Biology	Required	No	4	Science
	284MATH-3	Linear Algebra	Required	No	3	College
	340CIS-3	Fundamental of Databases	Required	No	3	Department
	321CCS-3	Data Structures	Required	211CCS-4	3	College
Level 6	114ISL-2	Islamic Culture 4	Required	No	2	Institution
	202ARAB-2	Arabic Writing	Required	No	2	Institution
	332CCS-3	Operating Systems	Required	211CCS-4	3	College
	352CCS-3	Human and Computer Interaction	Required	No	3	Department
	313CCS-3	Programming Paradigm	Required	212CCS-4	3	Department
	287MATH-3	Numerical Methods	Required	No	3	Department
Level 7	424CCS-3	Algorithm Design and Analysis	Required	321CCS-3	3	Department
	285STAT-3	Probabilities and Engineering Statistics	Required	No	3	College
	451CCS-3	Software Engineering	Required	212CCS-3	3	Department

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	423CCS-3	Artificial Intelligence	Required	No	3	Department
	417CCS-3	Mobile Application Development	Required	212CCS-4	3	Department
Level 8	414CCS-3	Computer Graphics	Required	211CCS-4, 284MATH-3	3	Department
	461CCS-3	Data Communication and Computer Networks	Required	No	3	Department
	425CCS-3	Machine Learning	Required	211CCS-4	3	Department
	422CCS-3	Theory of Computation	Required	No	3	Department
	343CIS-3	Advance Database Systems	Required	340CIS-3	3	Department
Summer Training	476CCS-4	Field Training	Required	Minimum 60 Credit Hours Completed (excluding PYP)	4	Department
Level 9	516CCS-3	Simulation and Molding	Required	No	3	Department
	574CCS-3	Special Topics in CS 1	Required	No	3	Department
	571CCS-2	Graduation Project 1	Required	451CCS-3	2	Department
	562CCS-3	Parallel and Distributed Systems	Required	No	3	Department
	515CCS-3	Internet Technologies	Required	No	3	Department
Level 10	553MATH-3	Operational Research	Required	No	3	Department
	563CCS-3	Computer Security	Required	461CCS-3	3	Department
	572CCS-3	Graduation Project 2	Required	571CCS-2	3	Department
	573CCS-3	Social, Ethical and Professional Issues	Required	No	3	Department
	575CCS-3	Special Topics in CS 2	Required	574CCS-3	3	Department

* Include additional levels if needed
** Add a table for each track (if any)

3. Course Specifications

Insert hyperlink for all course specifications using NCAAA template

https://drive.google.com/drive/folders/1PtXEIkOP5wFIqDmFjN3M9f4I3PHQeqkv?usp=sharing

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									
	Knowledge		Skills					Values		
	K.1	K.2	S.1	S.2	S.3	S.4	S.5	V.1	V.2	V.3
PYP 1 (LEVEL 1)										
140MATH-2 Introduction of Mathematics	I									
140ENG-2 Reading Skills		I						I	I	
141ENG-2 Writing Skills		I			I				I	I
142ENG-2 Listening and Speaking Skills									I	
143ENG-2 English Language: Grammars	I								I	
140SKL-2 Learning, Thinking and Research Skills		I				I		I	I	
140TEC-3 Computer Skills 1	I	I	I	I		I			I	
PYP 2 (LEVEL 2)										
150MATH-4 Calculus 1	I									
150ENG-3 General English	I	I			I			I	I	
151ENG-2 Report Writing		I				I		I	I	
150SKL-2 Communication Skills		I						I	I	
150MAN-1 Professional Ethics		I						I	I	
150TEC-1 Computer Skills	I		I	I		I				I
LEVEL 3										
211CCS-4 Fundamentals of Programming	P		I	I		I	I	I		
104PHYS-4 Principles of Physics	I	I								
281MATH-3 Calculus 2	I							I		

Course code & No.	Program Learning Outcomes									
	Knowledge		Skills					Values		
	K.1	K.2	S.1	S.2	S.3	S.4	S.5	V.1	V.2	V.3
111ISL-2 Introduction to Islamic Culture		I						I	I	
201ARAB-2 Arabic Language Skills		I							I	
LEVEL 4										
212CCS-4 Object Oriented Programming	P		P	I		P	P			
231CCS-4 Computer Organization and Architecture	I		I	I		P	P			
282MATH-3 Calculus 3	P	I								
112ISL-2 Islamic Culture 2		I						I	I	
152MATH-3 Discrete Mathematics	I	I						I		
LEVEL 5										
340CIS-3 Fundamental of Database	I			I		P	I	P		
321CCS-3 Data Structures	P		P	I	I	P	I			
113ISL-2 Islamic Culture 3		I						I	I	
101BIOL-4 General Biology	I	I						I		
342MATH-3 Linear Algebra	P									
LEVEL 6										
332CCS-3 Operating Systems	I		P	P		P	I			
352CCS-3 Human and Computer Interaction	P		P	P		P	M		P	P
313CCS-3 Programming Paradigm	P		P			P	P	I	I	
114ISL-2 Islamic Culture 4		I						I	I	
202ARAB-2 Arabic Writing		I						I	I	
283MATH-3 Numerical Methods	I	I						I		

Course code & No.	Program Learning Outcomes									
	Knowledge		Skills					Values		
	K.1	K.2	S.1	S.2	S.3	S.4	S.5	V.1	V.2	V.3
LEVEL 7										
424CCS-3 Algorithm Design and Analysis	I		P	P		I	M			
451CCS-3 Software Engineering	P	P	P	M	P	P	M	M	P	P
423CCS-3 Artificial Intelligence	P		P	P	I	P	P	I		
417CCS-3 Mobile Application Development	P	P	P	P	P	P	P	I	P	I
324STAT-3 Probabilities and Engineering Statistics	P							P		
LEVEL 8										
414CCS-3 Computer Graphics	P		I	P		P	P	P	I	I
461CCS-3 Data Communication and Computer Networks	P		P	P		P	P			I
426CCS-3 Machine Learning	M		M	M		M	M			
422CCS-3 Theory of Computation	P		P	P		P	M	P		
343CIS-3 Advance Database Systems	P	P	P	P	P	M	P	M	P	P
SUMMER SEMESTER										
476CCS-4 Industrial Training	M	M	M	M	M	M	M	M	M	M
LEVEL 9										
571CCS-2 Graduation Project I	M	M	M		M	M	P	M	M	M
516CCS-3 Simulation and Modeling	P		P	M	P	M	M			P
574CCS-3 Special Topics in CS 1										

Course code & No.	Program Learning Outcomes									
	Knowledge		Skills					Values		
	K.1	K.2	S.1	S.2	S.3	S.4	S.5	V.1	V.2	V.3
562CCS-3 Parallel and Distribution Systems	P	P	P	P		M	P			
515CCS-3 Internet Technologies	P	P	M	M	P	M	M	P	P	P
LEVEL 10										
572CCS-3 Graduation Project II	M	M		M	M	M	M	M	M	M
553MATH-3 Operational Research	M		M	M		M	M	P		
564CCS-3 Computer Security	P	M	M	P	P	M	P			P
573CCS-3 Social, Ethical and Professional Issues	P	M			M			M	M	M
575CCS-3 Special Topic in CS 2										

* Add a table for each track (if any)

5. Teaching and learning strategies to achieve program learning outcomes

Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	An ability to demonstrate the knowledge of computing and mathematics appropriate to the discipline.	• Lecture: Teacher gives concepts theoretically and by applying those to a real-world case study to be discussed using different examples on different situations.	**Direct Methods:** 1. Course Learning Outcomes assessment (Each Semester) 2. Performance Indicators with a set of rubrics (once every assessment cycle) **Indirect Methods:** 1. Exit Survey (Each Semester) 2. Current Student Survey (Each Semester) 3. PAC Meeting and Discussions (Once a Year) 4. Alumni Survey
1.2	An ability to identify security, privacy and social issues in computing practices		

			5. Employer Survey
2.0	**Skills**		
2.1	An ability to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	• 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 use of the software. • Participating in tutorial classes and open lab. • 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. (b-i-3) • 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	**Direct Methods:** 1. Course Learning Outcomes assessment (Each Semester) 2. Performance Indicators with a set of rubrics (once every assessment cycle) **Indirect Methods:** 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
2.2	An ability to design, implement and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.		
2.3	An ability to analyze the local and global impact of computing on individuals, organizations and society		
2.4	An ability to use current techniques, skills, and tools necessary for computing practice.		

2.5	An ability to apply computer science theory and software development fundamentals to produce computing-based solutions. [CS]	open-ended problems are taking place. • 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 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.	
3.0	**Values**		
3.1	An ability to function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.	• Lectures in which students are made aware of the significance of time management. Creation of interactive teaching and learning environment. • 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	**Direct Methods:** 1. Course Learning Outcomes assessment (Each Semester) 2. Performance Indicators with a set of rubrics (once every assessment cycle) **Indirect Methods:** 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
3.2	An ability to communicate effectively in a variety of professional contexts.		
3.3	An ability to recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.		

		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.	

6. Assessment Methods for program learning outcomes.

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

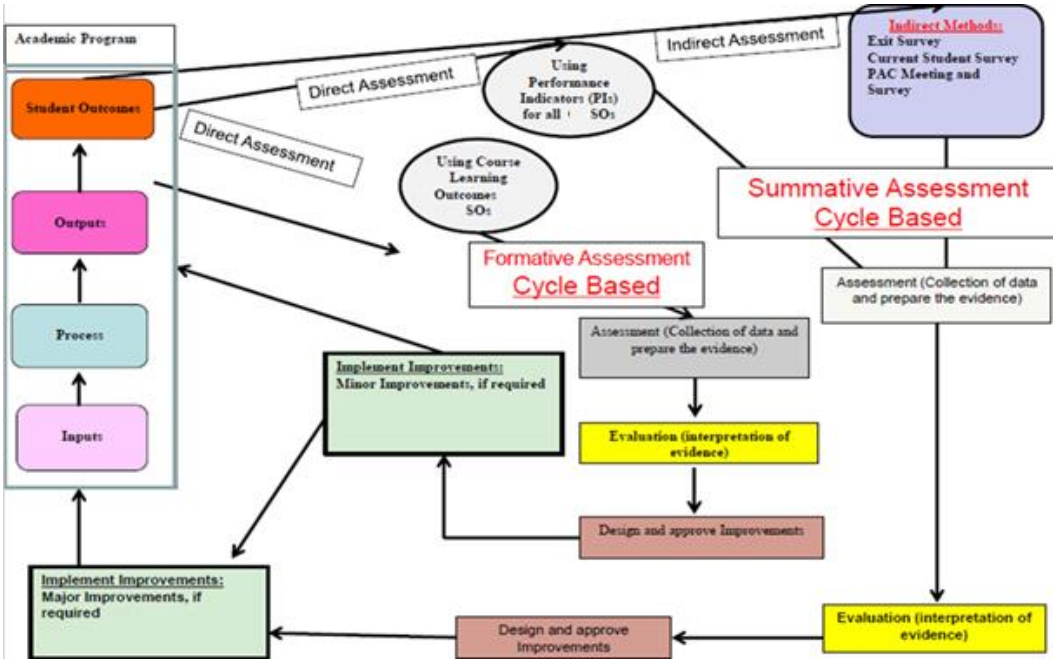
Formative Assessment.

- Formative assessments are on-going 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.
- Example of formative assessment is quizzes, assignments, midterms, etc. It will be used in level 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.
- Example of summative assessment is final exams, nationwide Tests, and it will be

done from levels 7 and 10.



D. Student Admission and Support:

1. Student Admission Requirements

Student admission for Computer Science (CS) program is performed electronically through EDUGATE [https://edugate.nu.edu.sa/nu/ui/home.faces], supervised by the Deanship of Admissions and Registration. Students who want to be admitted in the program of Computer Science (CS) 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 preparatory year.
- ✓ Students of the natural sciences (the scientific section) who obtained balanced ratio 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, the 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 (the departments 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 a 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 is 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 CS program through a system called, Bridging System, if they meet some requirements. Requirements for joining the Bridging System (Complementary and Transitional) are described publicly in [https://dadr.nu.edu.sa/59].

All admission information for Information Systems program is described publicly in a clear and understandable way on the program websites, including admission requirements, policies and procedures. Sources: http://portal.nu.edu.sa/web/guest/admission-requirements https://www.nu.edu.sa/web/deanship-of-admission-and-registration/57

2. Guidance and Orientation Programs for New Students

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 about 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 [https://cscis.nu.edu.sa/64]. These appeal and complaint procedures protect against time-wasting 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 CS 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, career, psychological and social)

Academic Advising Unit (AAU) of CS 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. All most 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' time table 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 on student's results. Academic advisors write a summary report on each student 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 advisee 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 our along with their expected graduation time frame (part of their program plan). Counselling on career planning take 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 student can fetch. These forms are also available with 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 record from 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 correspondence tracking system (https://cts.nu.edu.sa/NajranCTS/start) 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 carrying forward to the decision-making authority (Dean of the college), 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. College coordinator is accountable to form an evaluation committee and send 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.

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 complaints, students have to 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. College council will pass the decision to the academic advising unit's coordinator and finally the decision will reach to the academic advisor to notify the student about their complaint outcomes. Blind Box complaints are normally cased specifically with pointed allegation and handle 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 usually opened on 25th of each month by the complaint handling committee and passes the complaints (if any) to the college council for further actions. 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 Deanship of Student Affairs.

4. Special Support
(low achievers, disabled, gifted and talented)

Academic Advising Unit has set collaboration with Activities Unit in CS program to support gifted, creative, and talented students. They offered extracurricular activities in variety of fields to develop their abilities and skills. The CS 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 to deal 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 support and educational counselling [https://help.nu.edu.sa/]. 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. Teaching and Administrative Staff

1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professors	-	-	-	0	0	0
Associate Professors	Computer Science	Computer Science Intelligent Systems	Area of Computing, E-Learning	2	0	2
Assistant Professors	Computer Science	Computer Science Database	Computer Science Databases, Query Optimization, Data Mining	6	3	9
Lecturers	Computer Science	Computer Science Database Intelligent Information Systems	Information retrieving, Data Mining	6	10	16
Teaching Assistants	Computer Science	Computer Science		1	14	15
Technicians and Laboratory Assistants				5	0	5
Administrative and Supportive Staff	Computer Science Business Education Islamic Studies	Business Administration Home Economics		5	5	10
Others (specify)						

2. Professional Development

2.1 Orientation of New Teaching Staff

Describe briefly the process used for orientation of new, visiting and part-time teaching staff

The college of Computer Science and Information Systems at Najran University (CSIS-NU) provides orientation program for new teaching staff. The orientation program is designed to help new staff members to become familiar with people, places, programs, policies and procedures related to the university, college and programs. From this orientation program they get precise information about vision, mission, program learning outcomes of the CS program, rules and regulations about teaching, preparing course learning outcomes (CLOs), course and program specifications, course file contents, examination rules and guidelines and policies, grading systems, assessment plan, students graduation projects guidelines, academic advising systems, development and quality unit (DQU) activities at program and college level, research activities in the college, etc.

The following activities are given to the new teaching staff:

- Seminar about accreditation.
- Seminar on how to prepare course files.
- Workshop in modern methods of teaching
- Workshop in the examination system
- Workshop to propose competitive research projects

2.2 Professional Development for Teaching Staff

Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

The departments, as well as the college of Computer Science recognize the significance of the faculty's professional development in order to attain the objectives and encourage excellence. So the CS program gives emphasize on faculty members professional development that directly reflects on their academic qualification. Most of the teaching staffs are involved in scholarly activities like workshops on newest technique of teaching and learning that ensure they remain up to date with latest development in their field. In addition, faculty members are required to conduct research, fulfil administrative duties and perform community service. Faculty evaluation is based on the performance of these duties and responsibilities according to the University evaluation system established for promotion. Most of the members are engaged for scientific researches and attended several workshops and conferences periodically. Survey report on faculty professional development is used to evaluate the involvement of faculty members in professional development activities. In more details, there are different professional development activities such as teaching and quality seminars and workshops implemented either in the college or Deanship of Development and Quality in the university. Faculty members are not only involved with the professional activities of teaching and quality but also have active participation in student advising, supervision and conducting of research and other administrative and miscellaneous activities. They have considerable contribution to publications and research. All faculty members are directly involved in designing syllabus and of course, building their own courses.

With respect to the research development activities, the faculty promotion process has four stages. The first stage is conducted by the department council; the second one is performed by conducted by the department council, and the last step is made by the University Scientific Council. The department chair will forward the request for promotion with all Documents to the Department Promotion Committee. Evaluations and the Recommendations concerning promotions made by the department promotion committee, which presents its reports to the department council. The recommendations for promotion of the department council are sent to the Dean's office via the department chair. The reports should include the foundations and conclusions upon which they are based, as well as the list of recommended referees in order to referee his scientific contribution. The College council evaluates the candidate and recommends promotions to the Vice-Chancellor for Higher Studies and Research. The Vice-Chancellor for Higher Studies and Research will present the proposed promotions the Scientific Council. The Scientific Council evaluates the cases for the potential promotions and either approves or denies the promotion. The concluding recommendations are presented to the chancellor for final approval. All promotion decision must abide by the Rules and Regulations of the Council of Higher Education and Universities, specifically, Articles from twenty-one to thirty-seven. Also, Najran University awards grants to faculty of up to $10,000 to advance new directions in research, in particular, research that has direct application to existing problems in the market or the community, or new creative activities or scholarly understandings. Najran University through the Vice-Chancellor Office and the Deanship of Scientific Research and make a further recommendation to certain research proposal to be supported by King Abdul-Aziz City for Science and Technology (KACST) which can awards grants to faculty of up to $300,000. Moreover, Najran University faculty members are eligible for academic leave (sabbatical) for one full year after working fully for five years. Travel expenses are approved from the college for conferences, workshops, and seminars.

a. Improvement of skills in teaching and student assessment

1. The Development Skills Unit (DSU) at the university level provides training programs related to teaching and student assessment.
2. A professional development survey is used to develop plans for professional development.
3. The program provides several workshops related to course structure and student assessment.
4. Presentations/ workshops held within the department for the exchange of ideas.

b. Other professional development including knowledge of research and developments in their field of teaching specialty

1) Research and publishing of findings in the educator’s field of expertise are encouraged.
2) Attending internal and external workshops.
3) The deanship of research provides several workshops related to research aspects.

F. Learning Resources, Facilities, and Equipment

1. Learning Resources.

Mechanism for providing and quality assurance of learning resources (textbooks, references and other

resource materials, including electronic and web-based resources, etc.)

- There is a yearly request of the learning resources need 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.

Processes followed for textbook acquisition and approval:

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 also to ensure the adequacy of the learning materials for the end-users.

Processes that are followed by faculty and teaching staff for evaluating the adequacy of textbooks, reference and other resource provisions:

A textbook evaluation form is used by the end of each year. In this form, the instructor has to give the percentage representing his opinion about the textbook(s) he is using in his course according to the following standards:

Textbook Evaluation and Availability Form

Your Name:

Semester: Year:

Course Code: Text Book/Edition/Year (required):

Please write the percentage representing your opinion about the TextBook you are using in your course according to the following standards:

No.	Standards	Percentage
1	Latest reference with current information.	
2	Percentage of compatibility between the course plan and the reference.	
3	Enough examples.	
4	Sufficient exercises and applications.	
5	Enough pictorial representations (Graph, figures etc.).	
6	Ease of understanding and coherence of sentences.	
7	The clarity in explanations.	

8	The clarity of printed /copied materials.	

Information on Textbook availability:

Available in	University Library	College Library	University e-library	College e-library	Remarks
Number of copies					

- Please write any additional remark on this sheet.
- Is this book available to the student?
- If yes in which form:
- Do you suggest a better Text Book and reference for this course?
- If yes: please write in the following table:

S. No.	Title	Author	Year of Publication	Publisher	ISBN (if available)	Course Code

Remarks:

Processes that are followed by students for evaluating the adequacy of textbooks, reference and other resource provisions:

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:

1. Are consistent with the objectives and outcomes of the course.
2. Are well organized.
3. Contain the appropriate graphical representation.
4. 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, medical facilities, classrooms, etc.).

Library:

The Prince Mishaal Bin Abdullah Central Library in Najran University (NU) offers collections of books and references related to the Computer Science 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 facility 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 and Information Systems. There are well-defined procedures to borrow the 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 located 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 Computer Science and Information Systems. 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.

Database library:

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

List of Databases and Journals

Database Name/Publisher	DNS
EBSCO	search.ebscohost.com
PROQUEST	proquest.umi.com/login
WILSON	relayweb.hwwilsonweb.com/hyyyy/login/jhtml
Ovid	ovidsp.ovld.com
IEEE	ieexplore.ieee.org/Xplore/login.jsp?url=/Xplore/home.jsp
	www.engineeringvillage.com
Oxford journals	www.oxfordjournals.org/register

Electronic Information Resources(Electronic Journals)

Emerald	www.emeraldinsight.com
British Medical Journals	www.bmj.com

Cambridge University Press	http://journals.cambridge.org
Emerald : EMX175	
IOP , Institute of Physics	www.iopscience.com
Oxford University Press	
Springer(including Kluwer)	www.springerlink.com
Royal Society of Chemistry Journals (RSC)	www.rsc.org/publishing/journals
American Institute of Physics Journals(AIP)	www.journals.aip.org/
American Physical Society	www.publish.aps.org/

Electronic Information Resource (Database)

MD Consult from Elsevier	
Web of Knowledge from Thomson Scientific (ISI)	www.isiknowledge.com
ISI Web of Knowledge	http://access.isiproducts.com/SaudiTrial
Applied Science and Technology Full Text	
Science Direct	
Ovid Collection	
Digital Dissertation	By ProQuest
ERIC	By EBSCO
Science Journals	By ProQuest
Biology Journals	By ProQuest
IEEE/ IEE Electronic Library	
Academic Search Premier	EBSCO
ProQuest Medical Library	ProQuest
ABI INFORM	ProQuest
MathSci	
Communication and Mass Media Complete	

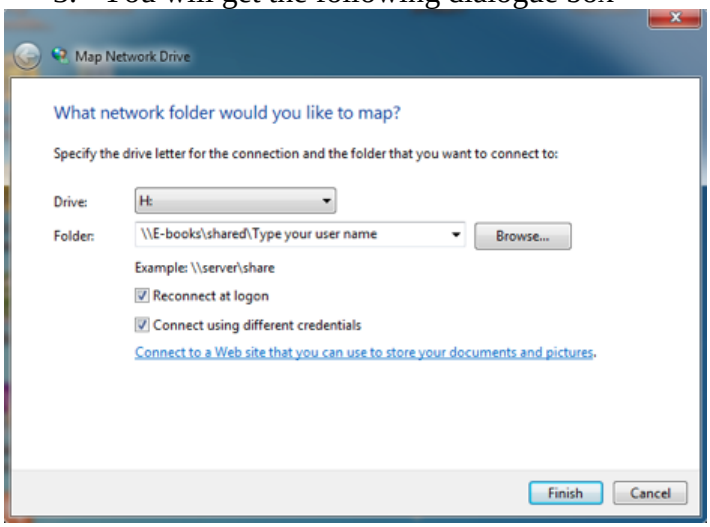
E-books collection:

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 are able to access these two machines from anywhere in 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 two major departments: Computer Science and Information Systems. All faculty members and students of the college have the right to access e-books and read within the campus through local area networks.

Simple procedure to access the e-books is as follows:
To map a network drive on your computer, follow the following steps

1. Right click on your network from your desktop
2. Select map Network Drive
3. You will get the following dialogue box



4. You can browse or type \\E-Books\Shared\Type your user name (user name is the same as your E-Mail id in Najran University)
5. Select the checkbox Reconnect at login
6. Select checkbox Connect using different credentials (First time, you must select this checkbox, if you did not login on E-Books Server)
7. Click on Finish to connect to this Network drive
8. You will be asked to provide your Credentials
9. User-name same as above and password is e-books (Only first time).

Processes that are followed by faculty and teaching staff for planning and acquisition resources for library, laboratories, and classrooms:

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.

Laboratories:

The College of CSIS has 11 Labs with 25 computers in each lab that is 375 computers in the male department, 220 in the female department and 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 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.

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

3. Arrangements to Maintain a Healthy and Safe Environment (According to the nature of the program)

There is a number of 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.

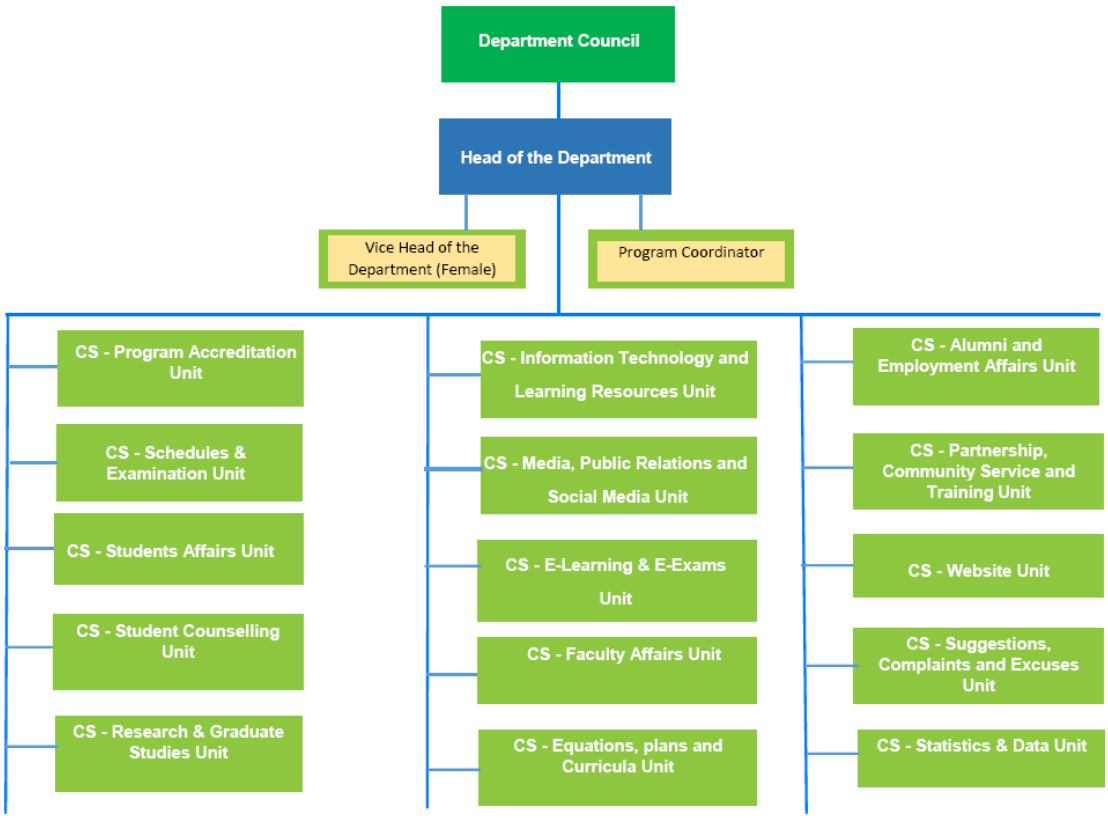
There is a Security and Safety unit in Najran University which is concerned with implementing plans and procedures to preserve the worksites from any obstacle and ensure security. This unit ensures the application of safety and security regulations to protect employees, staff and students and properties 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 the buildings are equipped with fire extinguishers and first aid kits.

G. Program Management and Regulations

1. Program Management
1.1 Program Structure
(including boards, councils, units, committees, etc.)

CS Department (Program Level) Administrative chart:



1.2 Stakeholders Involvement

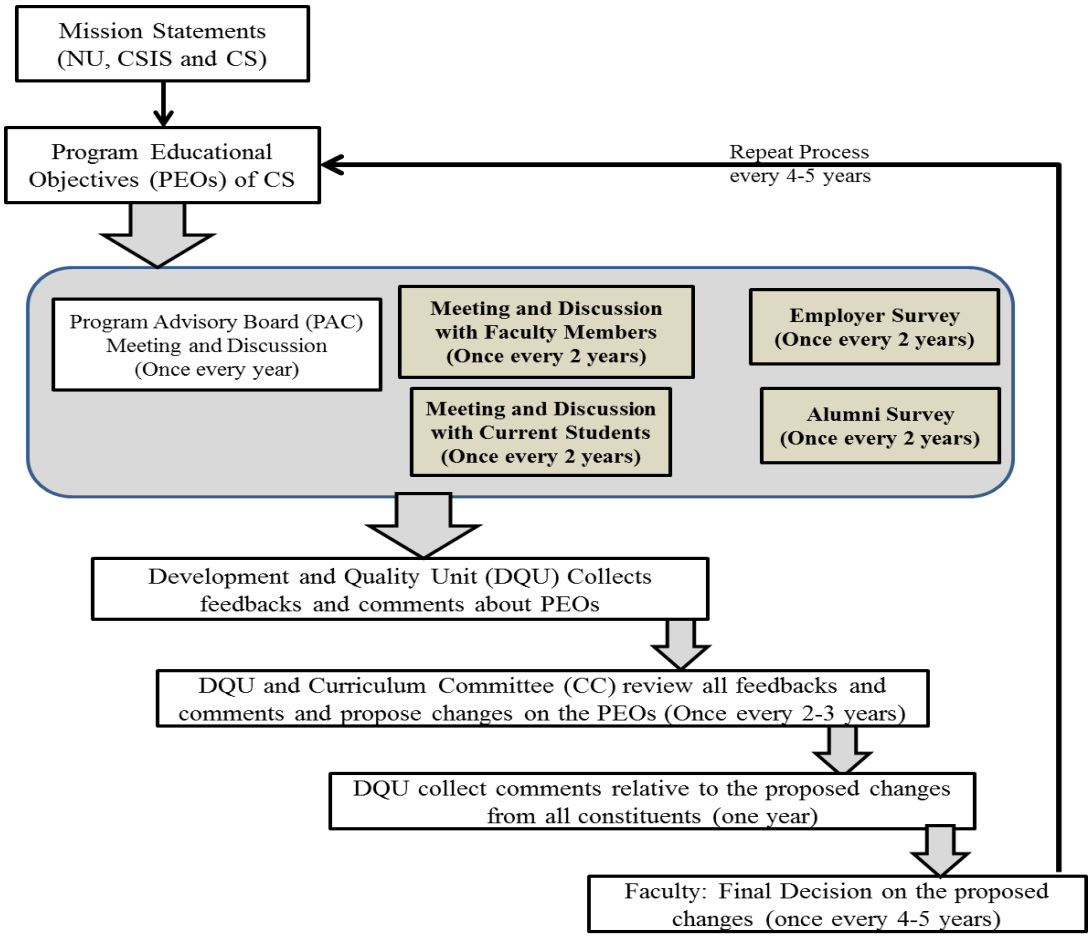
Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)

The main stakeholders of the Computer Science (CS) program are defined as follows:

- **Computer Science Faculty:** The faculty members at both campuses (male and female) are involved in establishing the program mission, objectives, outcomes, curricula, etc. Also, they are mainly involved on regular basis in the assessment and evaluation processes of the quality of the program.
- **Current Students:** The current students are those students who are currently enrolled in the program. They must be aware of the program educational objectives and outcomes of the program to realize whether the program adequately prepares them for future employment or not. Therefore, current students play a very important role through several kinds of surveys (online course survey, exit survey, current student survey) and meetings in the development of the PEOs and the improvement of the curricula, outcomes and educational practices.
- **The Alumni:** Graduates with career achievements are alumni. They play a vital role through survey in the revision of the PEOs based on their work experience. Also, they can give their feedback on the overall program quality and curricula.
- **Program Advisory Committee (PAC):** The Program Advisory Committee (PAC) members represent employers of our students and other employers (public and private sectors), faculty members from other universities, and representative (Head or coordinator of the program) of the CS Program, interested industrial organizations engaged in computer science areas and allied fields. The members of PAC play an essential role in establishing the PEOs, outcomes and curricula. In addition, they give the most recent challenges that the labour market face with respect to CS graduates.

The CS program established the Program Advisory Committee (PAC). PAC is one of the main stakeholders of the CS program. They provide advice to the program by providing the current industrial trends and feedback about the program's graduates. The members of PAC are selected from the private and public industrial organizations as well as representatives from the academic fields.

Moreover, they should be involved in any major changes that will be carried out in the program. For example, the employers of our students will give feedback about the PEOs through an online survey called Employer Survey (Appendix F). The primary purpose of the Employer survey is to ensure regular revision of the educational objectives of the program (PEOs).



The purposes of the PAC are to:

- Encourage communication between the program and private and public employers in the kingdom.
- Convey current challenges facing the IT industry into the program plan.
- Help develop and guide the education and curriculum issues in the program.
- Assessment and improvement of academic programs.
- Recent technologies directions, skills and knowledge provided by the program's objectives and mission, as well as other pertinent issues.

- To recognize the achievements of alumni and other supporters of the program.
- to assist in publicity and public relations concerning the programs of the college

The PAC meets once a year in the second semester of the academic year. The meeting will be 3-4 hours to discuss all issues related to the improvement of the program.

2. Program Regulations

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)

Admissions:

Students who want to be admitted to the Department of Computer Science, Najran University, should satisfy the following requirements:

1. 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 preparatory year. For all the other specializations, the average shall be calculated as follows: 30% aptitude and 70% general secondary.
2. The student should have obtained the general secondary certificate or its equivalent from the Kingdom or abroad.
3. No more than two academic years should have elapsed from the date of his/her obtaining such certificate or its equivalent.
4. The student should have an ethical conduct and proper behavior.
5. The student should successfully pass any exam or personal interview (if found).
6. The student should be medically fit.
7. The student should obtain approval from his authority to pursue his/her studies if s/he works for any governmental or private body.
8. The student should not have been expelled from Najran University or any other university for academic or disciplinary reasons.
9. 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.
10. The student meeting the requirements should present the documents stipulated by the Deanship of Admission and Registration at the University.
11. 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 a degree.
12. Files of students who are late for admission tests (if found) shall be ruled out.
13. Files of students who are late for personal interviews (if found) and do not present an acceptable excuse shall be ruled out.
14. 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.

Source: http://portal.nu.edu.sa/web/guest/admission-requirements

Attendance and Completion Requirements:

For academic accomplishment at the college of computer science and information systems, students should attend at least 75% of the lectures, tutorials, and practical and laboratory lessons in regular courses. Students failing to meet this requirement in any of

his registered courses will be prohibited from attending the final examination of those courses and will have F grades that are zero grades for those courses.

The Computer Science program in the Department of Computer Science of Najran University is intended to provide broad background knowledge to its students in this area. Along with a strong theoretical component, the Computer Science program places special emphasis on the development of applied skills in design, implementation, and validation of computer systems. All students acquire a common background in the fundamental areas of computer science such as computer systems, organization and architecture, algorithms and data structures, principles of software design, elements of the theory of computation, operating systems and other core courses. In addition, students obtain specialized backgrounds by conducting non-departmental courses like Physics and Mathematics. Along with these courses, other additional courses like Arabic, Islamic studies, give students an opportunity to expand their horizons and to prepare for multidisciplinary careers.
The Bachelor of Science in Computer Science Program is designed for students who are interested to broaden their knowledge of computer science in order to further prepare themselves for a professional career in the computing industry. To achieve the Bachelor of Science in Computer Science Degree, a student must fulfil both College and Department degree requirements.

Regulations for Student Assessment and Verification of Standards

1. A dedicated faculty member assigned as a course coordinator.
2. Course is assigned to more than one instructors (Female and Male campuses) allowing them to share their experiences and ensuring equivalent levels of evaluation of students
3. Knowledge groups are responsible to review exams and the grading schemes and levels of complexities in assessment methods.
4. Periodic exchange and remarking of a sample of assignments and exams with faculty members.
5. Periodic revision of the course learning outcomes and their alignment with student outcomes.
6. Ensure that the assessment methods are designed to know the achievement of each one of the course learning outcomes.
7. Assessing the course learning outcomes for each course.
8. Using rubrics to ensure unbiased evaluations for complex questions.
9. Course Assessment planning that shows the assessment methods for each one of Course Learning Outcomes (CLOs).
10. Direct and Indirect assessment methods are used to evaluate and improve the levels of student learning outcomes.
11. The program curriculum committee reviews all course files by the end of each semester.

Student Academic Counselling

Academic advising unit of our program aimed to provide comprehensive guidance to our students through efficacious counselling regarding students' academic and personal difficulties. However, this service is currently limited 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. All most all faculty members of our program are playing a role as an academic advisor as a part of their job responsibilities by following the guidelines (Appendix A: Academic advising mechanisms) set by academic advising unit and being monitored by the coordinator of this unit. At present, separate time of 4 hours/week for student advising in academic advisors' time table has been enforced to schedule. Each newly enrolled student is encouraged to meet his/her academic advisor and open a student file (Appendix B: Forms and reports, available at, http://portal.nu.edu.sa/web/computer-science-college/65) which should be kept and maintained by academic advisor as that student's record. This file should reflect student progress mainly concerning on student's results. Academic advisors write a summary report (Appendix B) on each student progress and based on this progress report, at the end of each semester, academic advisors produce a subject plan (Appendix B) for the coming semester for each advisee 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 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,8,9 and 10) students depending on the students' necessity.

Student Appeals

For our program, students' academic appeals are mainly categorized by the form of 'Add/drop courses, Absent excuses, Rechecking of exams and Makeup exams'. Apart from these academic appeals, other appeals are also considered by the academic advising units by an adopted mechanism (Appendix C: Student academic advising and appeal procedure- Flowchart). Regulations for handling student appeals are listed below.

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 (http://portal.nu.edu.sa/web/computer-science-college/65) from where student can fetch. These forms are also available with academic advisors.

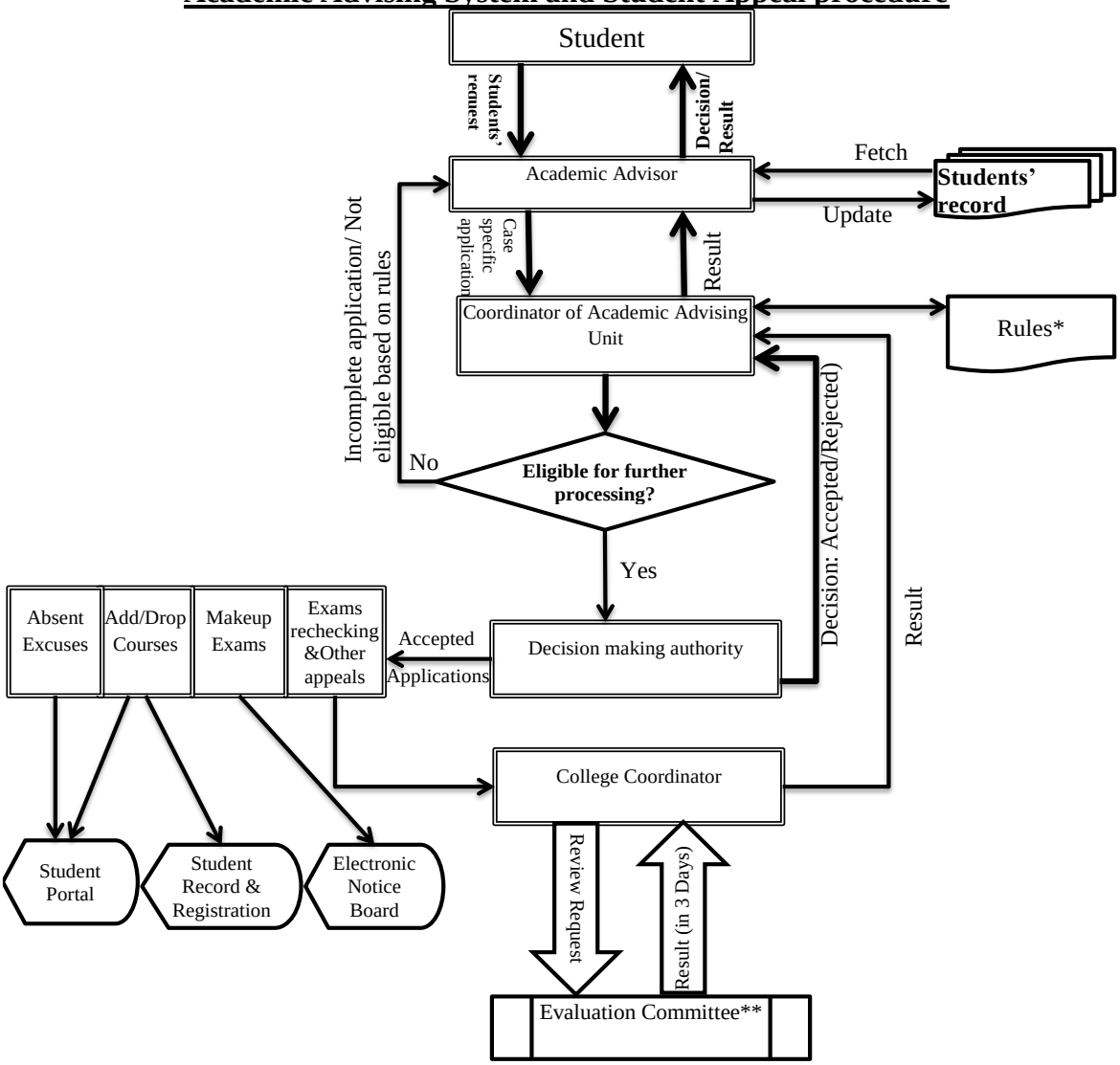
Academic advisors are accountable to consult with the student in detail to spot students' need and provide guidance to fill out the appeal form. During this consultation process, academic advisors are responsible for fetching necessary record from the corresponding student file to support his/her opinion.

When an appeal has been finalized and submitted by the student, academic advisors are accountable to attach necessary supporting documents with this appeal and forward this appeal to the academic advising unit through the University's correspondence tracking system (https://cts.nu.edu.sa/NajranCTS/start) for further evaluation. 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 (Appendix D: available at, http://edugate.nu.edu.sa/nu/files/admissionpoliciesforunistudy.pdf), college rules () and program requirements (http://portal.nu.edu.sa/web/computer-science-college/67).

If an appeal complies with all requirements, it has been carry forwarded to the decision making authority, else it has been returned to the correspondent academic advisor. The decision making authority provides a decision on the majority appeal cases by 7 days that appear in different places/format depending on the nature of the appeal (refer to the flow chart). Successful appeal for rechecking of exam is forwarded to the college coordinator. College coordinator is accountable to form an evaluation committee and send the review request to that committee. The evaluation committee should consist of at least 3 people (i.e. Program coordinator, subject coordinator, member of that subject's knowledge

group) and is accountable to provide the outcome within 3 days.

Academic Advising System and Student Appeal procedure



H. Program Quality Assurance

1. Program Quality Assurance System

Provide online link to quality assurance manual

Quality assurance manual is available in the following link

https://drive.google.com/file/d/1fckj0JpYsZ31izCJjUEq47_NVq0mvFhS/view?usp=sharing

2. Program Quality Monitoring Procedures

Teaching and other staff involved in the program must be committed to improving both their own performance and the quality of the program as a whole. Regular evaluations of quality must be undertaken within each course based on valid evidence and appropriate benchmarks, and plans for improvement made and implemented.

Central importance must be attached to student learning outcomes with each course contributing to the achievement of overall program objectives.
Management of Program Quality Assurance:

1. Students overall evaluation of the quality of their learning experiences at the institution.
2. The proportion of courses in which student evaluations were conducted during the year.
3. Internal auditor evaluation of program's quality-related activities
4. Overall satisfaction of faculty, staff, and students on the quality-related activities.

3. Arrangements to Monitor Quality of Courses Taught by other Departments.

In compliance with annual plan of the Development& Quality Unit (DQU) for the year 2018-2019, the Najran University, college of Computer Science and Information System developed and well-defined mechanism to arrangements and monitor quality of course taught by other department through a dedicated unit in the faculty called the unit coordination of external courses .The main task of this unit can be summarize as the following tables. Table [1] show levels Courses, Courses Name and code, prerequisite, Teaching staff responsible, course status and course coordinator. Table [2] summarizes the task and Process monitor quality of course taught by other departments and the responsibility.

Table 1

Level	Code No.	Course Title	Prerequisite	Instructor	Status :Y/N			Coordinator
					Sub.	Rev.	Edi.	
Level 3	104PHYS-4	Principles of Physics					Y	
	282MATH-3	Calculus 2					Y	
	111ISL-2	Introduction to Islamic Culture					Y	
	201ARAB-2	Arabic Language Skills	N				Y	

Level 4	286MATH-3	Calculus 3	282MATH-3				Y	
	112ISL-2	Islamic Culture 2	111ISL-2				Y	
	283MATH-3	Discrete Mathematics	N	د. وديع الشميري			Y	
Level 5	113ISL-2	Islamic Culture 3	111ISL-2				Y	
	101BIOL-4	General Biology		د. جمعة نعنعه			Y	
	284MATH-3	Linear Algebra		د. وديع الشميري			Y	
Level 6	114ISL-2	Islamic Culture 4					Y	
	202 ARB-2	Arabic Writing	201 ARAB-2				Y	

Following table 2 shows the tasks and responsibility of team work to monitor and ensure quality of course, were a list of the college-specific requirements is identified (Check-list) and then the member who is responsible for this task is review process as specified requirements and write report if any missing.

Table 2: Tasks and teamwork responsibility

Check-list		Task	Responsible
	1	Check and review the course syllabus according to CLO of the collage	external courses Coordinator + Course instructor
	2	Review the quality of course	Department Chair + Course instructor
	2	Check up the course file writing according to the college format.	Course instructor + external courses coordinator
	4	Follow up and receive the course files.	External courses Coordinator

	5	Revision of the course file	Course Coordinator
	6	Revision of Course Report (area of improvements and recommendations)	Department Chair
	7	Approve the Check-list	
	8	Archive the files.	Coordinator external courses
	9	Take students opinions about level of benefit from the course	
	10	Feedback from the student about course instructor	

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

Consistency between male and female section:

- 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: 00 Pm) weekly for a Meeting if needed in the time table 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.

5. Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships (if any).

N/A

6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes

Computer Science Program will use the 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 quality'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 program's internal DQU unit that ensures continued quality monitoring.

7. 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, partnerships, etc.)
Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify)
Evaluation Methods (e.g., Surveys, interviews, visits, etc.)
Evaluation Time (e.g., beginning of semesters, end of academic year, etc.)

8. Program KPIs*

The period to achieve the target (2019-2020) year.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives	75%	Data regarding the achievement rate of all the indicators as in the program operational plan should be collected and the overall achievement percentage should be calculated.	End of the academic year

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
2	**KPI-P-02**	Students' Evaluation of quality of learning experience in the program	75%≈ 3.75 (on a five-point scale)	Exit survey should be conducted among the final year students to assess the quality of learning experiences. The percentage of students who strongly agree or agree to the statements in the survey is to be calculated	
3	**KPI-P-03**	Students' evaluation of the quality of the courses	80%≈ 4 (on a five-point scale)	Online Course Survey should be conducted to the students towards the end of the semester to assess their registered courses. The percentage of respondents who strongly agree or agree is to be calculated from the survey	End of each semester
4	**KPI-P-04**	Completion rate	70%	Data regarding the number of students who registered in the 2nd semester of the year 2015-16 and number of students who completed the graduation in the end of the year 2018-2019 is to be collected. The percentage of number of students who completed the graduation in the end of the year 2018-2019 successfully out of the number of students who registered in the 2nd semester of the year 2015-2016 is to be calculated	End of academic year
5	**KPI-P-05**	First-year students retention rate	70%	Data regarding the number of students who registered in the start of the year 2018-19 and number	End of academic year

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
				of students who completed that year successfully is to be collected. The percentage of number of students who completed that year successfully out of the number of students who registered in the start of the year 2018-19 is to be calculated	
6	**KPI-P-06**	Students' performance in the professional and/or national examinations	N/A	N/A	N/A
7	**KPI-P-07**	Graduates' employability and enrolment in postgraduate programs	a) 30% b) 10%	Data regarding the employment status and further study details of the students who graduated in the 1st semester 2017-18 from the alumni unit of the college should be collected. The percentage of students who are employed, undergo further study and who are still unemployed or not in further study out of the total number of students is to be calculated	End of the academic year
8	**KPI-P-08**	Average number of students in the class	12	Collecting the statistical data of the number of students in each course and find the average (ratio of number of students and number of courses)	End of the semester
9	**KPI-P-09**	Employers' evaluation of the program graduates proficiency	80%	Employer survey should be conducted to assess the proficiency of the graduates. The percentage of employers who strongly agree or agree to the statements in the survey is to be	End of the academic year

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
				calculated	
10	**KPI-P-10**	Students' satisfaction with the offered services	75%≈ 3.75 (on five point scale	A survey should be conducted among the students to assess their satisfaction level with the offered services. The percentage of students who strongly agree or agree to the statements in the survey is to be calculated	End of the academic year
11	**KPI-P-11**	Ratio of students to teaching staff	1:20 Theoretical and Practical courses	Data should be collected regarding the number of faculty members and the number of students assigned for each theory and practical courses. The ratio between the number of teachers and the students assigned for each theory and practical courses is to be calculated.	End of the academic year
12	**KPI-P-12**	Percentage of teaching staff distribution	70% (Ph.D Holders - 70% and Non-Ph.D Holders- 30%)	Data is to be collected regarding the number of teaching staff based on the gender (male/female), based on the branches (CS,IS), based on academic rankings (lecturers, associate prof., asst prof) and the percentage has to be calculated out of the total teaching staff	Start of the academic year
13	**KPI-P-13**	Proportion of teaching staff leaving the program	10%	Data is to be collected from the HoD regarding the number of teaching staff leaving the institution for reasons other than age retirement and the total number of teaching staff in the department. Percentage of number of teaching staff leaving the	End of the academic year

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
				institution out of the total number of teaching staff is to be calculated	
14	**KPI-P-14**	Percentage of publications of faculty members	40%	Data regarding the total number of teaching staff and number of teaching staff who have at least one research publications should be collected and thereby percentage is calculated	End of the academic year
15	**KPI-P-15**	Rate of published research per faculty member	2:1	Data regarding the total number of teaching staff and the total number of research publications should be collected and percentage should be calculated	End of the academic year
16	**KPI-P-16**	Citations rate in refereed journals per faculty member	1:4	Data regarding the total number of teaching staff who have research publications and the total number of citations in research publications should be collected and percentage should be calculated.	End of the academic year
17	**KPI-P-17**	Satisfaction of beneficiaries with the learning resources	70%	Survey should be conducted among the students to assess the satisfaction level with the learning resources.. The percentage of students who strongly agree or agree to the statements in the survey is to be calculated	End of the academic year
18	**KPI-P-I-1** (additional)	The proportion of full-time teaching and other staff actively engaged in community service activities	1:5 (minimum of one community service activity from five staff members)	Data regarding the total number of teaching staff and the community service activities of the teaching staff should be collected and ratio should be calculated.	End of academic year

* including KPIs required by NCAAA

I. Specification Approval Data

Council / Committee	CS DEPARTMENT COUNCIL
Reference No.	402/41/21-3
Date	2/3/2020