T-103
2023

Program Specification

Program Name: **Computer Engineering and Networks**
Program Code (as per Saudi university ranking): 071405
Qualification Level: **Bachelor (Level 6)**
Department: **Computer Engineering and Networks**
College: **Computer and information sciences**
Institution: **Jouf University**
Program Specification: New ☐ updated* ☒
Last Review Date: 01/09/2023

*Attach the previous version of the Program Specification.

Content:

Content	Page
In order to assess and evaluate the extent to which the PLOs are being attained, the CEN Program uses various processes. These processes are defined to keep data gathering efficient and effective, and the evaluation relevant according to the process of continuous improvement. To achieve these goals, two types of assessments, direct and indirect are performed. The indirect assessment is performed using surveys while the direct assessment results are obtained from student coursework based evaluations. **1. Direct Assessment:** The direct assessment of the course learning outcomes usually relies on the course works and uses a variety of tools that include combinations (as defined in the articulation matrix at the beginning of academic year) of final exam, midterm exams, quizzes, homework assignments, lab-exams, assignments, projects, presentations, etc. The assessment tools do however vary from course to course. For measuring the attainment of the course learning outcomes (CLOs), the following steps should be first applied at each CEN course at the course-assessment level. The results of the CLO attainments are later used for measuring the PLO achievements of the program: 1 Intended course learning outcomes (CLOs) are defined for all courses. 2 During course design, different assessment method(s) suitable for intended CLO are specified. 3 For a given course, each learning outcome assessment is treated and carried out individually independent of the rest of learning outcomes. The criteria for success are the measurable performance targets associated with the assessment instruments and evaluation rubrics used by the program in determining whether the intended learning outcomes have been achieved.	7

4   The faculty member is required to submit a course report. The course report refers to and relies on the course assessment report which specifies the extent of attainment of the program learning outcomes covered by each course.

As mentioned above, the faculty member teaching a given course assigns weights to each assignment method towards its specific CLO. At the end of each semester, every faculty member is required to submit a course report for taught courses. A course report refers to and relies on the course assessment report submitted as a part of the course file for each course. The course report specifies the extent of attainment of the program learning outcomes covered by the course, taking into account the preset target that should be achieved. If this goal is not achieved, the course should be diagnosed and appropriate corrective actions suggested

These reports also take into account student feedback obtained through courses student evaluation surveys where the overall course performance is recorded for each course in the following semester, the proposed corrective measures, which are the driving force for the continuous improvement process, will be implemented.

The department has identified various possible assessment tools where the instructor can choose from the choice of the assessment tools varies from course to course. The list of the direct assessment tools are as follows:

1   Homework assignments / Assignments
2   Quizzes / Tests
3   Mid-term Exams
4   Group (Individual) Project / Mini project – Rubric Based
5   Group (Individual) Report / Research Report– Rubric Based
6   Lab Exam / Lab Activities
7   Class- Participation/ discussion – Rubric Based
8   Presentation - Rubric Based
9   Final Exam

The assessment tools given above are assigned to the individual learning domains as follows:

Learning Domain	Assessment Methods
Knowledge and Understanding	• Homework assignments / Assignments • Quizzes / Tests • Mid-term Exams • Class- Participation/ discussion – Rubric Based • Final Exam

Skills		• Homework assignments / Assignments • Quizzes / Tests • Mid-term Exams • Group (Individual) Project / Mini project – Rubric Based • Group (Individual) Report / Research Report – Rubric Based • Lab Exam / Lab Activities • Class- Participation/ discussion – Rubric Based • Presentation - Rubric Based • Final Exam
Values		• Homework assignments / Assignments • Quizzes / Tests • Mid-term Exams • Teamwork – Rubric Based • Group (Individual) Project / Mini project – Rubric Based • Group (Individual) Report / Research Report – Rubric Based • Class- Participation/ discussion – Rubric Based • Presentation - Rubric Based • Lab Activities • Final Exam

2. Indirect Assessment:

Stakeholder are asked to rate the quality of teaching and learning process through the conduction of different surveys. The CEN program developed evaluation forms for many stakeholders to guide the evaluation of results obtained from the collected surveys. The table below, summarizes the tools for the indirect assessment with respect to the course-level and program-level assessments. In this regard, surveys targeting the sought outcomes are solicited from stakeholders at the end of semester and during the academic year. The surveys are conducted by the faculty members in their respective classes, by the—measurement and evaluation committee (college committee), and/or by the department committees with the follow-up of the program coordinator.

Indirect assessment tools of the CEN program

		Assessment Tool	Frequency of Assessment	Target Leve Achieveme
Course-level assessment surveys		Course Student Evaluation Surveys	Semester	68% of th students str agree or ag
Program-level		Program Evaluation Survey (Graduating students)	Year	

| assessment surveys | Employers Survey | Year | Will be define... the plan for F... measurin... |
| | Alumni Survey | Year | |

Course-level assessment surveys:

Course Student Evaluation Surveys (CSES):

As the name indicates, the CSES are course-level assessment surveys and are conducted at the end of each CEN course. These surveys aim to obtain analysis from students towards each course at the semester end. This is designed by the deanship of quality and academic accreditation that are based upon the suggested NCAAA templates. The survey included four themes which are:

- The first theme: The beginning of the course
- The second theme: What happened during the course (progression)
- The third theme: Evaluation of the course
- The fourth theme: Overall Evaluation

The survey used the five-point scale (Likert scale), and the mean and orientation were calculated for each item. The orientation (degree of agreement) was based on the weighted average as follows:

- Very low
- Low
- Average
- High
- Very high

This survey is carried out at the end of each semester. It aims to measure students' perspectives about various aspects of the courses offered in the CEN program. All the Course student evaluations are carried out electronically through an Electronic Student Gate. A report on the courses student evaluation surveys is delivered to eventually invoke recommendation for improvement in certain courses. The report is a part of the continuous improvement report, where recommendations for improvement are proposed and an action plan is delivered to the department for approval and then implemented in the following semester.

Program-level assessment surveys (Graduating students):

1. Program Evaluation Survey:

The Program Evaluation Survey provides valuable information on the effectiveness of the program in achieving its outcomes. Furthermore, it reflects the positive and negative aspects of the student's achievements in the program. The questions in the surveys assessed graduating students' satisfaction in the whole components of the program and program outputs including knowledge, skills, and competences that they gained, academic and career counseling they have encountered before

graduation. This survey is evaluated by the continuous improvement committee which ultimately suggests recommendations based on the graduating students' assessments and suggestions.

2. Employer Satisfaction Survey:

This survey is designed specifically for students completing the program in order to measure their extent of achievement of the set outcomes intended for the program. Such surveys have important role to play in assessing the program outcomes and monitoring the quality and effectiveness of CEN Program.

3. Alumni Survey:

The alumni represent a vital part of the CEN program evaluation since they represent its outcomes, and their success is a direct reflection of the success of the program itself and the fulfillment of the program goals in providing the community with competent and confident graduates.

The achievements of PLOs:

The achievements of PLOs are subject of the CEN continuous improvement committee to discuss comments and feedback from the students' attainments of the PLOs from direct and indirect assessments, to seek for the area of strengths and of weakness and to submit recommendations for improvement so as to attain the target level of PLOs achievements. It is worth noting that advisory board minutes about the CEN program results is also utilized as feedback for improvement and is incorporated into planning to enhance the overall attainment of program learning outcomes.

D. Student Admission and Support:

The CEN program always encourages talented and gifted students and ensures their continued development as ideal future candidates for advanced studies in CEN field on their journey to becoming the Nation's next generation of leaders and decision-makers.

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E. Faculty and Administrative Staff:f

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Academic Rank	Specialty		Special Requirements / Skills (if any)	Req M
	General	Specific		
Professors	Computer engineering	Networks	---	1
Associate Professors	Computer engineering	Embedded Systems	---	1
		Networks	---	1
Assistant Professors	Computer engineering	Computer engineering	---	20
Lecturers	Computer engineering	Networks	CCNA	5
Teaching Assistants	Computer engineering	---	---	0
Technicians and Laboratory Assistants	IT	IT	---	3
Administrative and Supportive Staff	secretary	secretary	---	2
Others (specify)	Computer engineering	Networks	---	1

A new faculty member is given a copy of the Faculty Handbook that contains all information about the duties and responsibilities of the faculty, including the rights, privileges and code of conduct. For the first two semesters, the faculty members assigned courses that are within his area of specialty. If necessary and desired, the faculty member is assigned an experienced senior faculty member for guidance. Students' evaluation is used to provide feedback about the faculty member quality of teaching. The faculty member is asked to attend the workshops on effective teaching and in professional development conducted by the University. The department will:

   - provide faculty handbook that summarizes main issues, e.g., number of office hours expected, involvement in student advising, involvement in administrative tasks, vacations, code of conduct, etc.

   - introduce new teaching staff to other faculty and staff in a department meeting.

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.)

Faculty members are urged to participate effectively in the programs and special training offered by the Development Skills Center in Jouf University. Workshops for various aspects of academic development are conducted frequently over the academic year for faculty members. Faculty members are encouraged and supported to attend national and international scientific conferences in their fields. Research seminars and workshops are held periodically. The department encourages its staff to:

- improve their skills in teaching and student assessment (Development Skills Center of Jouf University) by the organization of workshops within the institution to share teaching methods and new tools

- adopt other professional development including research, like, conferences attendance and conduct regular seminars in which faculty members present latest issues in the field.

F. Learning Resources, Facilities, and Equipment:

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G. Program Quality Assurance:	
H. Specification Approval Data:	11

A. Program Identification and General Information

1. Program's Main Location:

University Main Campus Sakaka - Jouf University – Al-Jouf -Saudi Arabia,

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

- Engineer, Computer
- Computer operator
- Computer engineering trainer
- Computer engineering teacher
- Network Administrator
- Network Engineer
- Computer networking technician
- Computer network security Supervisor

5. Relevant occupational/ Professional sectors:

- Information Technology Sector
- Educational Sector

6. Major Tracks/Pathways (if any): (N/A)

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
Regular	151	• Engineer, Computer • Computer operator • Computer engineering trainer • Computer engineering teacher • Network Administrator • Network Engineer • Computer networking technician • Computer network security Supervisor
Cooperative	151	• Engineer, Computer • Computer operator • Computer engineering trainer

	10	• Computer engineering teacher
		• Network Administrator
		• Network Engineer
		• Computer networking technician
		• Computer network security Supervisor

7. Exit Points/Awarded Degree (if any): (N/A)

exit points/awarded degree	Credit hours
	-

8. Total credit hours: (151).

B. Mission, Objectives, and Program Learning Outcomes

1. Program Mission:

Preparation of qualified scientific cadres in the various fields of computer engineering and networks through innovative education and scientific research, which develop their creative and analytical abilities to serve the society.

2. Program Objectives:

G.1 - To prepare graduates who possess essential professional computer engineering and networks skills that make them confident to develop high quality engineering solutions.

G.2 - To support faculty members to continuously develop their skills in computer engineering and networks.

G.3 - To participate in the community development   by providing consultancies and services in the field of Computer Engineering and Networks.

G.4 - To contribute effectively to the scientific research related to the field of Computer Engineering and Networks.

3. Program Learning Outcomes*

Knowledge and Understanding

K1	Demonstrate sound knowledge of contemporary issues.
K2	Demonstrate sound knowledge of computer engineering and networks issues and problems.
K3	Demonstrate sound knowledge of mathematics, science, and engineering sciences and design

Skills

S1	Design and conduct appropriate experimentation including data collection, analysis, and interpretation, and drawing conclusions.
S2	Apply engineering design to meet specified needs within realistic constraints such as public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
S3	Use principles of engineering, science, and mathematics to solve complex engineering problems and to address related research questions.
S4	Communicate effectively with a range of audiences.
S5	Use the techniques, skills, and modern engineering tools necessary for computer engineering and networks practices.

Values, Autonomy, and Responsibility

V1	Participate effectively on a team as a member providing leadership, creating collaborative and inclusive environment, establishing goals, planning tasks to meet objectives.
V2	Recognize ethical and professional responsibilities in engineering situations including informed judgments with consideration of global, economic, environmental, and societal contexts.
V3	Assess own learning and performance autonomously and engage in independent life-long learning.

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

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	8	25	15.43%
	Elective	3	6	3.7%
College Requirements	Required	14	44	27.16%
	Elective	--	--	
Program Requirements	Required	23	71	43.8%
	Elective	4	11	6.79%
Capstone Course/Project	Required	2	5	3.08%
Field Training/ Internship	Required	1	1	0.61%
Residency year	N/A	N/A	N/A	0%
Others	N/A	N/A	N/A	0%
Total		55	162	100%

2. Program Courses

Level	Course Code	Course Title	Required/ Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 1	CIS 101	Computer Skills	Required	---	3	University
	ENGL 001	English Language (1)	Required	---	6	University
	MTH 101	Introductory Mathematics	Required	---	3	College
	EDU 101	University Life Skills	Required	---	2	University
Level 2	CIS 102	Problem Solving and Programming	Required	CIS 101	3	College
	ENGL 002	English Language (2)	Required	ENGL 001	6	University
	MTH 102	Differential Calculus	Required	MTH 101	3	College
	CHM 103	Principles of Chemistry	Required	---	3	College
Level 3	ISL 101	Fundamental of Islamic Culture	Required	---	2	University

Level	Course Code	Course Title	Required/ Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	ARB 100	Arabic Language Skills	Required	---	2	University
	CIS 203	Computer programming (1)	Required	CIS 102	4	College
	CIS 211	Discrete Maths	Required	MTH 102	3	College
	PHS 101	General Physics (1)	Required	---	4	Department
	MTH 203	Integral Calculus	Required	MTH 102	3	College
Level 4	CNE 101	Digital & Logic Design	Required	CIS 211	3	Department
	CIS 204	Computer programming (2)	Required	CIS 203	4	College
	PHS 202	General Physics (2)	Required	PHS 101	4	Department
	MTH 204	Advanced Calculus	Required	MTH 203	3	College
	MTH 285	Principles of Linear Algebra	Required	MTH 203	3	College
Level 5	CNE 202	Advanced Digital & Logic Design	Required	CNE 101	3	Department
	CNE 203	Digital & Logic Design Lab	Required	Co-Req CNE 202	1	Department
	MTH 305	Differential Equations	Required	MTH 204	3	Department
	CIS 205	Data structures	Required	CIS 203	4	College
	MTH 281	Statistics and Probabilities	Required	MTH 203	3	Department
	ELE 262	Electrical & Electronic Circuits	Required	PHS 202	4	Department
Level 6	ISL 107	Professional Ethics	Required	---	2	University
	CIS 321	Software Engineering	Required	CIS 204	3	Department
	CIS 322	Concepts of Database Systems	Required	CIS 205	4	College
	MTH 382	Numerical Methods	Required	MTH 305	3	Department
	CNE 204	Computer Architecture & Organization	Required	CNE 202	3	Department

Level	Course Code	Course Title	Required/ Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 7	CNE 211	Signals and Systems	Required	MTH 204	3	Department
	CIS 342	Operating Systems	Required	CIS 205	3	Department
	CNE 305	Microprocessor Systems	Required	CNE 204	4	Department
	CNE 312	Data & Computer Communications	Required	CNE 211	4	Department
	CNE 313	Computer Networks (1)	Required	Co-Req CNE 312	3	Department
	CNE 321	Automatic Control Systems	Required	CNE 211	3	Department
Level 8	ARB 102	Writing Skills	Required	---	2	University
	ISL 10x	ISL 109 or ISL 100 or ISL 108	Elective	---	2	University
	CIS 323	Software Project Management	Required	CIS 322	3	College
	CNE 307	Embedded Systems	Required	CNE 305	3	Department
	CNE 308	Embedded Systems Lab	Required	Co-Req CNE 307	1	Department
	CNE 314	Computer Networks (2)	Required	CNE 313	3	Department
	CNE 315	Computer Networks Lab	Required	Co-Req CNE 314	2	Department
	CNE 322	Automatic Control Systems Lab	Required	CNE 321	1	Department
Summer 4th Year - Training	CNE 391	Field Training	Required	Finish 110 Credit Hours	1	College
Level 9	CNE 416	Principles of wireless Communication Networks	Required	CNE 313	3	Department
	CNE 417	Networks & Information Security	Required	CNE 315	3	Department
	CNE 406	Introduction to VLSI Design	Required	ELE 262	3	Department
	XXX xxx	Elective (1)	Elective	---	3	Department
	CNE 492	Graduation Project (1)	Required	Finish 110 CH	2	Department

Level	Course Code	Course Title	Required/ Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 10	**ISL 10x**	ISL 109 or ISL 100 or ISL 108	Elective	---	2	University
	XXX 10x	EDU102 or BUS101	Elective	---	2	University
	XXX xxx	Elective (2)	Elective	---	3	Department
	XXX xxx	Elective (3)	Elective	---	3	Department
	CNE 493	Graduation Project (2)	Required	CNE 492	3	Department

* Include additional levels if needed

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

Computer Engineering and Networks Electives

Code			Name	CH	Prerequisite
1	CNE	494	Selected topics in Computer Engineering	3	Finish 110 Credit Hours, any departmental prerequisites
2	CNE	495	Selected topics in Networks	3	Finish 110 Credit Hours, any departmental prerequisites
3	CNE	481	Heterogeneous Networks	3	CNE 313
4	CNE	482	Optical Networks	3	CNE 313
5	CNE	483	Wireless Sensor Networks	3	CNE 313
6	CNE	484	Digital Image Processing	3	CIS 205
7	CNE	485	Parallel Architecture Computing	3	CNE 305
8	CNE	472	Network Security Practice	3	Co-Req. CNE 417
9	CNE	473	Testing of Digital Circuits	3	CNE 203
10	CNE	474	Pattern Recognition	3	Finish 90 Credit Hours
11	CNE	475	Digital and Fuzzy Control	3	CNE 322
12	CNE	476	Modern Sensors	3	Finish 90 Credit Hours
13	CNE	477	Digital Design using VHDL	3	CNE 203
14	CNE	478	Intelligent Systems and Robotics	3	Finish 90 Credit Hours
15	CIS	313	Artificial Intelligence	3	CIS 205
16	CIS	414	Design and Analysis of Algorithms	3	CIS 205
17	CIS	426	Advanced Software Engineering	3	CIS 321

18	CIS	434	Cloud computing	3	Finish 90 Credit Hours
19	CIS	442	Applied Cryptography	3	Finish 90 Credit Hours
20	CIS	462	Natural Language Processing	3	Finish 90 Credit Hours
21	CIS	463	Bioinformatics	3	Finish 90 Credit Hours
22	CIS	465	Expert Systems	3	Finish 90 Credit Hours

* Include additional levels if needed

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

University Compulsory Courses (29 Hours)

Course Code	Course Name	Level
ENGL 001	English Language (1)	1
EDU 101	University Life Skills	1
CIS 101	Computer skills	1
ENGL 002	English Language (2)	2
ISL 101	Fundamentals of Islamic Culture	3
ARB 100	Arabic Language Skills	3
ISL 107	Professional Ethics	6
ARB 102	Writing Skills	8
The student select two courses from Those Three Islamic courses		
ISL 100	Studies in the Biography of the Prophet	8
ISL 108	Contemporary Issues	8
ISL 109	The Role of Women in Development	8

University Elective Courses (select 2 Hours)

Course Code	Course Name	Level
EDU 102	Volunteer Work	10
BUS 101	Entrepreneurship	10

College Compulsory Courses (43 Hours)

Course Code	Course Name	Level
MTH 101	Introductory Mathematics	1
CHM 103	Chemistry	2
MTH 102	Differential Calculus	2
CIS 102	Problem Solving and Programming	2
MTH 203	Integral Calculus	3

CIS 211	Discrete Mathematics	
CIS 203	Computer Programming (1)	
CIS 204	Computer Programming (2)	4
MTH 281	Statistics and Probabilities	5
CIS 205	Data Structures	
CIS 342	Operating Systems	7
CIS 322	Concepts of Database Systems	6
CIS 323	Software Project Management	8

Field training

The student must finish a number of weeks in field training. Where to practice experience activity, is defined by the department in advanced. Teaching staff supervise students through their Field training.

In addition, the field trainer sends report to the department about student progress. At the end of the training, the student conducts a presentation about what he learned in the training The student has to finish 110 credit hours before starting the field training

3. Course Specifications:
Insert hyperlink for all course specifications using NCAAA template (T-104)

https://drive.google.com/drive/folders/1hRx25tqiTOO77OywMgdlNoEgCd2hD5jL?usp=drive_link

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).*

Mapping Matrix of the program learning outcomes with College/University and some Department courses (non-specialized courses)

Course code & No.		Program Learning Outcomes										
		Knowledge and understanding			Skills					Values		
		K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
Level 1	CIS 101	I							I			
	ENGL 001							I		I		I
	MTH 101			I								
	EDU 101	I									I	I
Level 2	CIS 102	I						I	I			I

Course code & No.		Program Learning Outcomes										
		Knowledge and understanding			Skills					Values		
		K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
	ENGL 002							I		I		I
	MTH 102			I								I
	CHM 103				I					I		
Level 3	ISL 101										I	I
	ARB 100							I		I		I
	CIS 203	I						I	I			I
	CIS 211		I	I					I			I
	PHS 101		I		I					I		
	MTH 203			I								
Level 4	CIS 204		I	I					I			I
	PHS 202		I		I					I		
	MTH 204			I								
	MTH 285			I								
Level 5	MTH 305			P		P	P	P				P
	CIS 205	P	P	P		P		P	P	P		P
	MTH 281		P	P								P
Level 6	ISL 107										P	P
	CIS 321	P	P			P	P	P	P			
	CIS 322		P	P				P	P			P
	MTH 382			P								
Level 7	CIS 342	M	M			M		M				
Level 8	ARB 102							M		M		M
	ISL 10x										M	M
	CIS 323	M			M		M	M	M	M	M	M
Level 10	ISL 10x										M	M
	XXX 10x							M		M	M	
	Elective (2)	To be determined from elective list										
	Elective (3)	To be determined from elective list										

Mapping Matrix of the program learning outcomes with department specialty courses

Course code & No.		Program Learning Outcomes										
		Knowledge and understanding			Skills					Values		
		K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
Level 4	CNE 101		I			I	I	I				
Level 5	CNE 202	P	P			P	P					
	CNE 203				P			P		P		
	ELE 262		P		P	P						
Level 6	CNE 204		P			P	P	P		P		
	CNE 211		P	P			P	P				
Level 7	CNE 305		M	M	M				M			
	CNE 312		M		M		M			M		
	CNE 313		M					M	M	M		
	CNE 321			M		M	M		M			
Level 8	CNE 307	M	M				M		M	M		
	CNE 308		M		M				M	M		
	CNE 314		M			M	M	M				M
	CNE 315				M	M		M	M	M		
	CNE 322				M				M	M		
Summer 4th Year	CNE 391	M				M		M	M	M	M	M
Level 9	CNE 416		M		M		M	M				
	CNE 417	M	M	M		M	M				M	M
	CNE 406	M			M	M						
	Elective(1)		To be determined from elective list										
	CNE 492	M	M			M	M	M		M	M	M
Level 10	Elective (2)		To be determined from elective list										
	Elective (3)		To be determined from elective list										
	CNE 493	M	M	M	M	M	M	M	M	M	M	M

* Add a table for each track (if any)

Elective courses

Course code & No.		Program Learning Outcomes										
		Knowledge and understanding			Skills					Values		
		K1	K2	K3	S1	S2	S3	S4	S5	V1	V2	V3
Elective courses	CNE 494	Selected topics in Computer Engineering, To be determined by department council										
	CNE 495	Selected topics in Networks, To be determined by department council										
	CIS 313	M	M				M	M	M			M
	CIS 414	M				M			M	M		
	CIS 426	M	M		M	M	M	M		M		M
	CNE 481		M	M	M		M			M		M
	CNE 482		M	M	M		M			M		M
	CNE 472		M	M		M			M			
	CNE 473	M	M	M		M				M		
	CNE 476		M		M	M				M		
	CNE 478		M			M	M			M		
	CIS 442	M	M		M	M		M			M	M
	CNE 474		M		M	M		M		M		
	CNE 475	M	M					M			M	
	CNE 477		M	M	M				M			M
	CIS 465	M	M	M	M		M	M		M	M	M
	CNE 483		M		M			M		M		
	CIS 463	M	M	M	M		M				M	M
	CIS 462	M	M		M	M		M			M	M
	CIS 434	M	M		M	M		M			M	M
	CNE 485		M		M	M				M		
	CNE 484		M		M			M		M		

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

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

CEN program use different teaching and learning strategies including:

- Lectures
- Tutorials
- Class discussion

- Problem solving
- Case study
- Self-learning
- Lab activities
- Reading Lists
- Hand-outs
- Group Work

Program Learning Outcomes and Teaching Strategies work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning and teaching. The below table summarizes the teaching learning strategies methods for program learning outcomes:

NQF Learning Domains and Learning Outcomes		Teaching Strategies
Knowledge and understanding		
K1	Demonstrate sound knowledge of contemporary issues.	- Lectures - Tutorials - Class discussion - Case study - Self-learning
K2	Demonstrate sound knowledge of computer engineering and networks issues and problems.	
K3	Demonstrate sound knowledge of mathematics, science, and engineering sciences and design	
Skills		
S1	Design and conduct appropriate experimentation including data collection, analysis, and interpretation, and drawing conclusions.	- Case study - Group Project-based learning - Laboratory works
S2	Apply engineering design to meet specified needs within realistic constraints such as public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	- Lectures - Tutorials - Problem solving-based learning - Case study - Group Project-based learning - Self-learning / guided learning - Presentation and reporting - Laboratory works
S3	Use principles of engineering, science, and mathematics to solve complex engineering problems and to address related research questions.	- Lectures - Tutorials - Presentation and reporting - Self-learning / guided learning

S4	Communicate effectively with a range of audiences.	• Lectures • Presentation • Group Project-based learning • Problem solving-based learning • Case study • Self-learning / guided learning • Class discussion
S5	Use the techniques, skills, and modern engineering tools necessary for computer engineering and networks practices.	• Lectures • Tutorials • Problem solving-based learning • Case study • Group Project-based learning • Self-learning / guided learning • Presentation and reporting • Laboratory works
Values		
V1	Participate effectively on a team as a member providing leadership, creating collaborative and inclusive environment, establishing goals, planning tasks to meet objectives.	• Group Project-based learning • Presentation and reporting • Laboratory works • Self-learning / guided learning
V2	Recognize ethical and professional responsibilities in engineering situations including informed judgments with consideration of global, economic, environmental, and societal contexts.	• Lectures • Tutorials • Class discussion • Group Project-based learning • Self-learning / guided learning • Presentation and reporting
V3	Assess own learning and performance autonomously and engage in independent life-long learning.	• Group Project-based learning • Self-learning / guided learning • Presentation and reporting • Class discussion

Teaching and learning strategies are planned and identified according to each course learning outcomes, which are aligned with PLOs. Further, these teaching strategies are chosen based on the domains of learning. These includes active learning strategies such as:

- Class discussion
- Group Project-based learning
- Self-learning / guided learning
- Presentation and reporting
- **Professional training and academic clubs**, which shows that the passionate about learning and gaining a competitive advantage. At the collegiate level, many high-performing students are invited to join professional societies. These

These active learning strategies are more or less practiced in the CEN program and their usability depends on the requirements in the CEN courses. Instructional strategies aimed at improving students' thinking include interactive learning in the form of class discussion and seminars. These use brainstorming, which encourages students to ask questions, discuss ideas, but also develop their own problem-solving. This will encourage students to participate in competitions which is of great importance in the engineer student life. Other strategies include completing projects, writing reports, and giving presentations. Presentation, and writing reports are chosen as strategies for developing communication skills. Group projects are commissioned to develop interpersonal skills and responsibility.

The traditional classroom is always shifted in favor of the new technological means. The last one is used to support student learning skills as it becomes more and more the focus of education. The college is equipped with smart-board technology, computer labs and wireless internet connection.

In addition, Extra-curricular activities complement the academic CEN curriculum by refining and developing interpersonal skills and behaviors, hence, enhancing students' experience. The impact of student engagement in extracurricular activities on achievement and employment is becoming evident nowadays.

The extra-curricular activities cover the following domains:

Sports, which covers playing on the college and university sport teams. Many of high school and college students join sports programs every year. Being a member of the college sports team can be a rewarding and enriching experience. Playing sports teaches you the importance of teamwork, leadership and working hard to achieve your goals.

Community Service, which covers any sort of volunteer work, either in the community, on a national scale, or abroad, most educational institutions offer regular opportunities for students to give back to the community. These activities take a variety of shapes, including participating in environmental cleanup efforts and mentoring students in elementary schools. Volunteer work shows the degree of commitment to helping the community and the willingness to serve others.

Professional training and academic clubs, which shows that the passionate about learning and gaining a competitive advantage. At the collegiate level, many high-performing students are invited to join professional societies. In addition, belonging to a club or taking part in professional training is beneficial because it shows potential employers that the student has some technical skills and that the intentionally sought out opportunities to develop professionally. The college level committee of professional and academic training organizes at each semester a wide range of training courses covering different areas in the fields of networking, programming, data management, security, systems administration, etc. It should also be emphasized that courses in the CEN program could be boosted by training course offered by the faculty member of the CIS College in male and female parts. For instance, Computer Networks 1 and Computer Networks 2, could be supported by the CCNA 1 and CCNA 2 certificates, respectively. Networks and Information Security, could be supported by the CCNP Security Certification. Hence, the offered training courses could be considered as an opportunity for the students to enhance their results and ultimately to enhance the attainment level of the program outcomes

6. Assessment Methods for program learning outcomes.

In order to assess and evaluate the extent to which the PLOs are being attained, the CEN Program uses various processes. These processes are defined to keep data gathering efficient and effective, and the evaluation relevant according to the process of continuous improvement. To achieve these goals, two types of assessments, direct and indirect are performed. The indirect assessment is performed using surveys while the direct assessment results are obtained from student coursework based evaluations.

1. Direct Assessment:

The direct assessment of the course learning outcomes usually relies on the course works and uses a variety of tools that include combinations (as defined in the articulation matrix at the beginning of academic year) of final exam, midterm exams, quizzes, homework assignments, lab-exams, assignments, projects, presentations, etc. The assessment tools do however vary from course to course. For measuring the attainment of the course learning outcomes (CLOs), the following steps should be first applied at each CEN course at the course-assessment level. The results of the CLO attainments are later used for measuring the PLO achievements of the program:

5. Intended course learning outcomes (CLOs) are defined for all courses.
6. During course design, different assessment method(s) suitable for intended CLO are specified.
7. For a given course, each learning outcome assessment is treated and carried out individually independent of the rest of learning outcomes. The criteria for success are the measurable performance targets associated with the assessment instruments and evaluation rubrics used by the program in determining whether the intended learning outcomes have been achieved.
8. The faculty member is required to submit a course report. The course report refers to and relies on the course assessment report which specifies the extent of attainment of the program learning outcomes covered by each course.

As mentioned above, the faculty member teaching a given course assigns weights to each assignment method towards its specific CLO. At the end of each semester, every faculty member is required to submit a course report for taught courses. A course report refers to and relies on the course assessment report submitted as a part of the course file for each course. The course report specifies the extent of attainment of the program learning outcomes covered by the course, taking into account the preset target that should be achieved. If this goal is not achieved, the course should be diagnosed and appropriate corrective actions suggested

These reports also take into account student feedback obtained through courses student evaluation surveys where the overall course performance is recorded for each course in the following semester, the proposed corrective measures, which are the driving force for the continuous improvement process, will be implemented.

The department has identified various possible assessment tools where the instructor can choose from the choice of the assessment tools varies from course to course. The list of the direct assessment tools are as follows:

10. Homework assignments / Assignments
11. Quizzes / Tests

12 Mid-term Exams

13 Group (Individual) Project / Mini project – Rubric Based

14 Group (Individual) Report / Research Report– Rubric Based

15 Lab Exam / Lab Activities

16 Class- Participation/ discussion – Rubric Based

17 Presentation - Rubric Based

18 Final Exam

The assessment tools given above are assigned to the individual learning domains as follows:

Learning Domain	Assessment Methods
Knowledge and Understanding	- Homework assignments / Assignments - Quizzes / Tests - Mid-term Exams - Class- Participation/ discussion – Rubric Based - Final Exam
Skills	- Homework assignments / Assignments - Quizzes / Tests - Mid-term Exams - Group (Individual) Project / Mini project – Rubric Based - Group (Individual) Report / Research Report – Rubric Based - Lab Exam / Lab Activities - Class- Participation/ discussion – Rubric Based - Presentation - Rubric Based - Final Exam
Values	- Homework assignments / Assignments - Quizzes / Tests - Mid-term Exams - Teamwork – Rubric Based - Group (Individual) Project / Mini project – Rubric Based - Group (Individual) Report / Research Report – Rubric Based - Class- Participation/ discussion – Rubric Based - Presentation - Rubric Based - Lab Activities - Final Exam

2. Indirect Assessment:

Stakeholder are asked to rate the quality of teaching and learning process through the conduction of different surveys. The CEN program developed evaluation forms for many stakeholders to guide the evaluation of results obtained from the collected surveys. The table below, summarizes the tools for the indirect assessment with respect to the course-level and program-level assessments. In this regard, surveys targeting the sought outcomes are solicited from stakeholders at the end of semester and during the academic year. The surveys are conducted by the faculty members in their respective

classes, by the—measurement and evaluation committee (college committee), and/or by the department committees with the follow-up of the program coordinator.

Indirect assessment tools of the CEN program

	Assessment Tool	Frequency of Assessment	Target Level of Achievement
Course-level assessment surveys	Course Student Evaluation Surveys	Semester	68% of the students strongly agree or agree
Program-level assessment surveys	Program Evaluation Survey (Graduating students)	Year	Will be defined at the plan for PLOs measuring
	Employers Survey	Year	
	Alumni Survey	Year	

Course-level assessment surveys:

Course Student Evaluation Surveys (CSES):

As the name indicates, the CSES are course-level assessment surveys and are conducted at the end of each CEN course. These surveys aim to obtain analysis from students towards each course at the semester end. This is designed by the deanship of quality and academic accreditation that are based upon the suggested NCAAA templates. The survey included four themes which are:

- The first theme: The beginning of the course
- The second theme: What happened during the course (progression)
- The third theme: Evaluation of the course
- The fourth theme: Overall Evaluation

The survey used the five-point scale (Likert scale), and the mean and orientation were calculated for each item. The orientation (degree of agreement) was based on the weighted average as follows:

- Very low
- Low
- Average
- High
- Very high

This survey is carried out at the end of each semester. It aims to measure students' perspectives about various aspects of the courses offered in the CEN program. All the Course student evaluations are carried out electronically through an Electronic Student Gate. A report on the courses student evaluation surveys is delivered to eventually invoke recommendation for improvement in certain courses. The report is a part of the continuous improvement report, where recommendations for improvement are proposed and an action plan is delivered to the department for approval and then implemented in the following semester.

Program-level assessment surveys (Graduating students):

1. Program Evaluation Survey:

The Program Evaluation Survey provides valuable information on the effectiveness of the program in achieving its outcomes. Furthermore, it reflects the positive and negative aspects of the student's achievements in the program. The questions in the surveys assessed graduating students' satisfaction in the whole components of the program and program outputs including knowledge, skills, and competences that they gained, academic and career counseling they have encountered before graduation. This survey is evaluated by the continuous improvement committee which ultimately suggests recommendations based on the graduating students' assessments and suggestions.

2. Employer Satisfaction Survey:

This survey is designed specifically for students completing the program in order to measure their extent of achievement of the set outcomes intended for the program. Such surveys have important role to play in assessing the program outcomes and monitoring the quality and effectiveness of CEN Program.

3. Alumni Survey:

The alumni represent a vital part of the CEN program evaluation since they represent its outcomes, and their success is a direct reflection of the success of the program itself and the fulfillment of the program goals in providing the community with competent and confident graduates.

The achievements of PLOs:

The achievements of PLOs are subject of the CEN continuous improvement committee to discuss comments and feedback from the students' attainments of the PLOs from direct and indirect assessments, to seek for the area of strengths and of weakness and to submit recommendations for improvement so as to attain the target level of PLOs achievements. It is worth noting that advisory board minutes about the CEN program results is also utilized as feedback for improvement and is incorporated into planning to enhance the overall attainment of program learning outcomes.

D. Student Admission and Support:

1. Student Admission Requirements

The University Council determines the number of students to be admitted in the upcoming academic year according to the recommendations of Colleges' Councils and respective bodies. Admission of prospective students requires the following:

1 The applicant must hold the General Secondary Certificate or its equivalent from inside/outside Saudi Arabia.
2 The General Secondary Certificate or its equivalent must have been obtained within the last five years (Exceptions can only be decided by the University Council in light of persuasive reasons).
3 The applicant must enjoy a good conduct.

4   The applicant must pass any interviews or tests decided by the University Council.

5   The applicant must be medically fit.

6   The applicant must obtain an approval to the study from his/ her employer if he/she works in any government or private institution.

7   The applicant must meet any other conditions determined and announced by the University Council at the time of application.

8   The applicant must have not been dismissed from another university for disciplinary reasons. Holders of a bachelor's degree or its equivalent may not be admitted to study another BA degree (exceptions can be decided only by the University Rector).

9   Applicants who are currently registered for another university degree or less, in this university or another one, may not be admitted. Selection of admitted students from applicants who meet all admission requirements is taken on the basis of their grades in the general secondary certificate, personal interviews and admission tests (if any).

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).

An Academic student guide is available in Arabic language on the website of the Deanship of Admission and Registration, the URL is: http://dar.ju.edu.sa/forms/Acadmic_Student.pdf This orientation program gives the new students a chance for getting more information about the program, goals and objectives for their studying Also the orientation program reinforces the new students to discuss their concerns with program administrators and graduated students.

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).

Guidance to Advising
At the beginning of each academic year, the dean of the college and faculty members, conduct a welcome orientation of its newly admitted students. The objectives of such an orientation include but not limited to:

1   A welcoming message from the Dean aimed at facilitating their integration into the various services of the university and also to the departments of the college.

2   Introducing the students to the Academic and Student Advising Unit in the college

3   Distributing the university Advising Guide

4   Assigning faculty advisors to the individual students

5   The meeting of the coordinators of the academic guidance to consult on the academic guidance plan in the college and about ways to develop it through practical proposals by each department under the supervision of the academic guidance unit,

6   Activate the service of an academic guide for the new faculty members and connect students with them to establish a balance in the service of guidance among all members of the faculty without full-time assignments.

Role of academic advisors

A departmental faculty member is assigned for each student as long as he is staying with the department as a student. The academic advisor advises the student until his graduation. The advisor monitors the student's performance, rectifies any errors and observed deficiencies, guides the student in preparation of the graduation plan, helps to select a suitable topic for senior design project to meet his graduation plan. Other responsibilities of the academic advisors may include:

1 Monitoring the absence of the student: Monitoring the absence of students from the functions of the professor of the course, and the academic advisor to follow up cases referred to him by the coordinator's guidance in accordance with the plan

2 Coaching about students add and drop of courses procedures.

3 Providing students with direct and indirect access to the expertise of college members outside the classroom.

4 Advise the students of their career opportunities

5 Advise the students psychologically by supporting them to overcome the psychological problems.

6 Advise the students socially

Career Guidance

1 Workshops are conducted during the studying for students in the early stages of how to choose a career path.

In each academic year prior to the commencement of the practical examinations, the college participates in the professional day. On a professional day, several workshops are held to teach students how to write a C.V., how to conduct interviews and how to choose the right job. On a professional day, the university invites a group of companies specializing in Information Technology, where they are presented with graduation projects for senior students and graduates

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

Universities and colleges are increasingly aware of the needs of students with a disability and students with a learning difficulty.

Support for students with disabilities
For those students who have physical needs (e.g., students use wheelchair). Facilities and equipment, associated with college building, are created in a way that allows students with special needs to study and practice their activity normally as other students. The facilities are including:

- Reserved parking spaces
- Wheelchair ramp

Disability advisors and learning support coordinators
The college has a disability advisor or learning support coordinator to help the student get the most out of time in higher education. They can tell the student about the support available.
There are many things universities can do to help students with disabilities, including:

- making sure buildings and facilities are accessible
- encouraging flexible teaching methods

- providing support during exams
- allowing additional time to complete courses

Support for gifted and talented students

The CEN program always encourages talented and gifted students and ensures their continued development as ideal future candidates for advanced studies in CEN field on their journey to becoming the Nation's next generation of leaders and decision-makers.

E. Faculty 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	Computer engineering	Networks	---	1	1	2
Associate Professors	Computer engineering	Embedded Systems	---	1	1	2
		Networks	---	1	1	2
Assistant Professors	Computer engineering	Computer engineering	---	20	14	34
Lecturers	Computer engineering	Networks	CCNA	5	5	10
Teaching Assistants	Computer engineering	---	---	0	0	0
Technicians and Laboratory Assistants	IT	IT	---	3	3	6
Administrative and Supportive Staff	secretary	secretary	---	2	2	4
Others (specify)	Computer engineering	Networks	---	1	1	2

A new faculty member is given a copy of the Faculty Handbook that contains all information about the duties and responsibilities of the faculty, including the rights, privileges and code of conduct. For the first two semesters, the faculty members assigned courses that are within his area of specialty. If necessary and desired, the faculty member is assigned an experienced senior faculty member for guidance. Students' evaluation is used to provide feedback about the faculty member quality of

teaching. The faculty member is asked to attend the workshops on effective teaching and in professional development conducted by the University. The department will:

    - provide faculty handbook that summarizes main issues, e.g., number of office hours expected, involvement in student advising, involvement in administrative tasks, vacations, code of conduct, etc.

    - introduce new teaching staff to other faculty and staff in a department meeting.

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.)

Faculty members are urged to participate effectively in the programs and special training offered by the Development Skills Center in Jouf University. Workshops for various aspects of academic development are conducted frequently over the academic year for faculty members. Faculty members are encouraged and supported to attend national and international scientific conferences in their fields. Research seminars and workshops are held periodically. The department encourages its staff to:

- improve their skills in teaching and student assessment (Development Skills Center of Jouf University) by the organization of workshops within the institution to share teaching methods and new tools

- adopt other professional development including research, like, conferences attendance and conduct regular seminars in which faculty members present latest issues in the field.

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.)

- Requests made by faculty teaching the course.
- Subject instructors are requested to select textbooks that are commonly used by top universities in the world. Also they are required to specify other teaching materials they need. The course coordinators submit all the department requests in appropriate form to library administration through departmental head.

In addition, for text books it should be ensured that it covers the whole course specifications.

2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

- Classrooms
- labs
- Video conference room
- Library

Concerning student projects, the department supports the students by offering the necessary components, tools, and environment needed for successful completion of their projects.

3. Arrangements to Maintain a Healthy and Safe Environment

(According to the nature of the program)

- Fire evacuation policy and fire drills are practiced in all places.
- First aid kits are available in CEN department.
- The College has emergency plans, safety signs, emergency exit signs and laboratory
- safety manuals

# G. Program Quality Assurance:

1. Program Quality Assurance System

Provide a link to quality assurance manual.
http://www.ju.edu.sa/en/administrations/deanships/deanship-of-quality-academic-accreditation/home/

Online link to CEN quality assurance manual:
https://drive.google.com/file/d/1W85Xt2eRLFWRRaUHIGmO2YMTGOqfmQ4U/view?usp=sharing

To assure that the assessment methods are appropriate and consistent with the specific learning outcomes and learning strategies, the CEN program adopts a reviewing process. The figure below summaries the different reviews that are carried out to the CEN program in terms of internal and external review process:
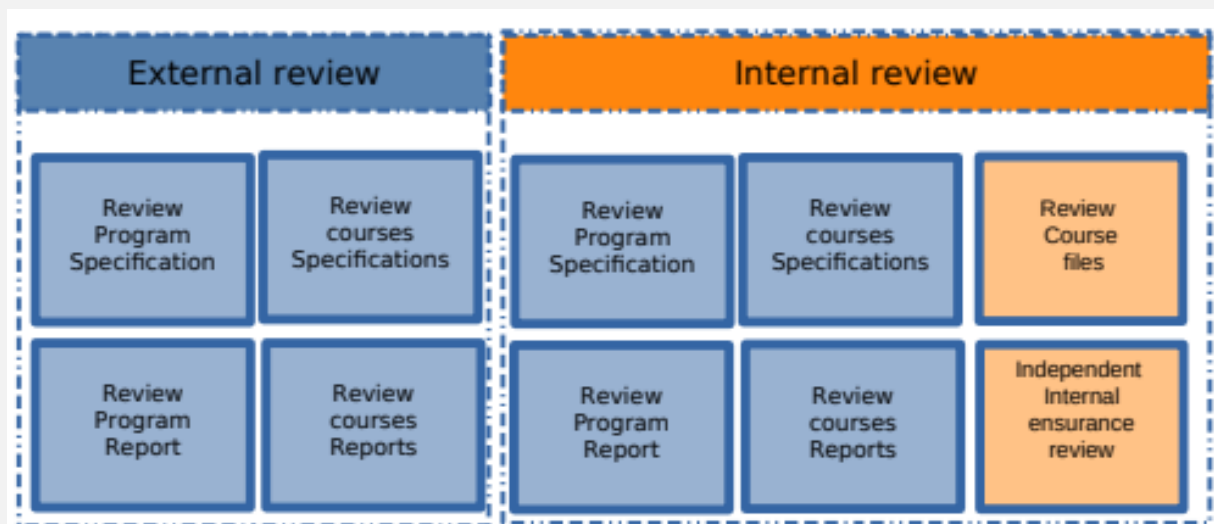
Internal and external review process of the CEN program

In addition, the review process is designed to ensure objective and constructive assessments regarding the quality of the programs and to meet the following objectives:

- monitor the degree to which students are achieving learning outcomes;
- to improve methods of delivering education, indicating program strengths, and ensuring the rigor of documentation;
- determine how the quality of the program can be increased;
- provide guidance to the faculty and make administrative decisions to support continuous future improvement.

The main procedures adopted are:

1. The internal courses' revision committee revises course specification, taking into consideration the correlation of course specification with the mission and goals of the program.
2. Revise the course reports every semester. Improvements and additions to course Specification can be made based on the feedback from the course report in each semester.

3. The internal program revision committee revises the program report periodically by conducting periodic program report reviews. The purpose of program review is to systematically evaluate all the aspects of academic programs, including curriculum, program outcomes, academic services, policies and resources, the competitive and market environment, and stakeholder perceptions of the program. This program review helps to ascertain strengths and weaknesses in these areas and propose changes and improvements as deemed essential.

4. The program specifications is periodically revised by an internal program revision team and consideration must be given to representing them according to certain guidance.

5. The CEN committee for internal assurance of student achievement standards reviews the exams to assess the effective procedures on the systems of assessment and evaluation of students to ensure the level of their achievements and to verify the quality of assessment covering the learning outcomes.

6. The internal course review committee reviews the course portfolio including, course outline, course specification, course report, tests and exams, samples of student answers, assessment report, etc.

7. At the end of the five year, a self-study report for the program is prepared, and the program's mission, goals, and learning outcomes are reviewed, for program development.

8. Independent reviewer….

In addition, the Deanship of Quality and Academic Accreditation, is conducting an external audit to verify that educational processes in the CEN program are consistent with the NCAAA requirements. External quality reviews of institutions and accreditation of programs will give particular attention to the adequacy of mechanism for verification of standards of student achievement.

Reports should be delivered for the internal and external review including the most prominent strengths and opportunities for improvement and action plan to be implemented, and an achievement report of the implemented plan. The report should be submitted to the CEN department for approval.

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

1. The courses Specifications, that are taught through other scientific departments, are accordance with the program Specification, and taking correlation of these programs Specification with the mission and goals of the program.

2. Program management is provided with Courses reports taught through other scientific departments. Improvements and additions to course Specification can be made based on feedback from the course report in each semester

3. Collaboration with the departments offering the service courses through committees' meetings for continuous improvement.

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

1. Preparing the course report for all the courses in a grouped manner, in which the male and female students and the branches are explained every semester.

2. Preparing the program report in a grouped manner in which the male and female students are explained annually.

3. Preparing the performance indicators report for the program.
4. Preparing an improvement plan to achieve consistency between the two parts.
5. Monitoring and follow-up.
6. Working together in CEN program committees
7. Assuring following and implementing the same program and courses' specifications

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

1. Learning outcomes are measured at the program level annually by direct methods (all kinds of tests) and indirect methods (questionnaires).
2. Calculating performance indicators of learning outcomes annually.
3. Based on the results of measuring learning outcomes and performance indicators of learning outcomes, an improvement and development plan that is applied in the following year is to be prepared and a report of this plan is written in the program report for the following year (appendices).

5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of teaching and assessment	Student, program leaders, faculty, peer reviewer	1. Program evaluation surveys 2. Students experience surveys 3. Faculty Satisfaction Surveys	End of academic year
		Internal and external reviews of courses and program specification Advisory committee opinion	Begin/end of academic year
		1. Course student evaluation surveys 2. Internal and external reviews of courses and program specification	At end of each study term
Extent of achievement of course/program learning outcomes	Program Leaders, advisory board faculty, quality unit, employers, students, alumni	1. Course reports (Course Assessment Reports) 2. Independent insurance of student achievements reviews	At end of each study term
		1. Alumni surveys 2. Employer surveys 3. Program evaluation surveys (Graduating students) 4. Program Annual report	End of academic year
		Advisory committee opinion	Begin/end of academic year
Quality of learning resources	Student, faculty, alumni	Exit Surveys	At end of each study term
		1. Faculty Satisfaction Survey 2. Program evaluation surveys 3. Student experience surveys 4. Alumni surveys	End of academic year
		Internal and external reviews of courses and program specification	Begin/end of academic year

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 (5) year(s).

* including KPIs required by NCAAA

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-P- 01	**Students' Evaluation of quality of learning experience in the program**	The target is determined based on:	- Program evaluation questionnaire - A questionnaire evaluating the student's experience	Second Term.
2	KPI- P- 02	**Students' evaluation of the quality of the courses.**	- Future plan for higher education (Horizons) ,	Questionnaires	Second Term.
3	KPI- P - 03	**Completion rate.**		Statistical data and analysis	End of Academic Year
4	KPI- P - 04	**First-year students retention rate**		Statistical data and analysis	End of Academic Year
5	KPI- P - 05	**Students' performance in the professional and/or national examinations.**	- College strategic plan, indicators' values in distinct similar programs.	Statistical data and analysis	End of Academic Year
6	KPI- P – 06(a) KPI- P – 06(b)	**Graduates' employability.** **Graduates' enrolment in postgraduate programs.**		Statistical data and analysis	End of Academic Year
7	KPI- P - 07	**Employers' evaluation of the program graduate's proficiency.**		Questionnaires	Second Term.
8	KPI- P - 08	**Ratio of students to teaching staff.**	Graduation in the target value is applied whenever the current values are far from the strategic targets.	Statistical data	End of Academic Year
9	KPI- P - 09	**Percentage of publications of faculty members.**		Statistical data	End of Academic Year
10	KPI- P - 10	**Rate of published research per faculty member.**		Statistical data	End of Academic Year
11	KPI- P - 11	**Citations rate in refereed journals per faculty member.**		Statistical data (Google Scholar and similar)	End of Academic Year
12	ADD KPI-P- 01	(Additional1) Number of research groups in the program		Statistical data from Research Unit	End of Academic Year
13	ADD KPI-P- 02	(Additional2) Number of funded research projects in the program		Statistical data from Research Unit	End of Academic Year

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
14	ADD KPI- P- 03	(Addtional3) The percentage of students participating in extra-curricular activities		Statistical data from Activities Committee	End of Academic Year
15	ADD KPI- P- 04	Employers' satisfaction about program vision , mission and goals		Questionnaires	End of Academic Year
16	ADD KPI- P- 05	(Additional5) Percentage of the student's graduation projects related to the surrounding community		Statistical data from graduation projects Committee	End of Academic Year

*including KPIs required by NCAAA

H. Specification Approval Data:

COUNCIL /COMMITTEE	COMPUTER ENGINEERING DEPARTMENT COUNCIL
REFERENCE NO.	DEPARTMENT COUNCIL N ….
DATE	………….