

Quality System of Academic Programs at Qassim Engineering College

Prepared by:
Prof. Mohammed A. Abdel-halim
Director of QAAA Unit

Oversighted by:
Dr. Mohammad Alresheedi
QEC Vice Dean

September 2020

Acknowledgment

The author acknowledges the sincere effort of the members of the QAAA unit of the College of Engineering and their support towards producing this manual.

Also, I would like to deeply thank Dr. Hussein Zain for his great help to finalize this manual and prepare the contained hyper- links to the necessary supporting documents.

Introduction

Qassim Engineering College is proud to present a manual for quality system in its BSc programs. This manual has been prepared with the guidance and review of the College Quality Assurance and Academic Accreditation Unit. The contents were made to be in abidance with the new developments in the kingdom. The current manual is also prepared in accordance to the new National Center of Academic Accreditation and Evaluation systems.

We ask God that this manual acts as a guide for our faculty, answers their academic quality quires and gives our faculty encouragement to be an effective part of raising quality in our academic activities.

An Opening

Qassim Engineering College is very proud of producing a manual for quality system followed in Qassim Engineering College. This manual was prepared under full supervision of QEC Quality Assurance and Academic Accreditation Unit. The manual is designed to allow the faculty to be fully aware of his responsibilities and his rights. It contains an overview of the services offered by the College as regarding the quality aspects. It also has the important roles of the faculty concerning the quality assurance and academic accreditation processes.

QEC Vice Dean

Dr. Mohammad Alresheedi

Contents

1. Introduction

- 1.1 Quality assurance of the educational process
- 1.2 Quality Glossary

2. Planning and Review

- 2.1 Planning and Review Cycle
- 2.2 Types of Comprehensive Review

3. Quality Assurance Unit and Committees

- 3.1 Introduction
- 3.2 Quality Structure
- 3.3 Quality Assurance and Academic Accreditation Unit
- 3.4 Program Quality Structure at the Program Level

4. Quality Assurance for Academic Programs at QEC

- 4.1 Introduction
- 4.2 Quality Assurance Cycle
- 4.3 Continuous Improvement Process
- 4.4 Documents of the NCAAA Accreditation Process
- 4.5 Documents of the ABET Accreditation Process

5. Measurement and Evaluation of Academic Programs Outcomes

- 5.1 Introduction
- 5.2 Program and Course Outcomes Measurement tools
- 5.3 Student Outcomes Measurements

6. National Academic Accreditation by NCAAA

- 6.1 Requirements for Program Accreditation
- 6.2 Program Accreditation Standards

7. International Academic Accreditation by ABET

- 7.1 Introduction

7.2 Program Eligibility Requirements

7.3 Student Outcomes

7.4 Program Educational Objectives

7.5 Evaluation Criteria

8- Academic Advising

8.1 Fresh Students Orientation

8.2 Academic Advising

8.3 On-line Advising

8.4 Student Responsibility and Role

8.5 Guidance and Counseling Services

8.6 Guidance of the International Students

9. DAMAN Platform

9.1 Introduction

9.2 The Role of the Deanship of Development and Quality

9.3 Steps to Deal with the Platform

References

Chapter 1

Introduction

1.1 Quality Assurance of the Educational Process

Quality assurance is defined as the set of activities that should lead to the identification of sources that cause problems or defects in the educational process, and to deal with these sources to avoid problems or defects in the educational process before they actually occur. This is in contrast to the monitoring of the educational process, which tests the outputs of the educational process to determine its shortcomings after problems and defects have already occurred.

Emphasizing the quality of the educational process requires studying all aspects, activities and steps of the process and achieving quality in each. This requires the following:

- Clarity and transparency of all academic programs, providing clear and accurate information to internal and external (relevant) stakeholders.
- Defining clear and precise objectives for the academic programs offered by the College which must be consistent with the mission of these programs and which must be in accordance with the College's mission.
- Ensure that the necessary conditions are met to achieve the objectives of the academic programs effectively and continue to maintain them.
- Ensure that academic program learning outcomes are consistent with labor market requirements and meet community needs.
- Ensure that academic programs meet the requirements of academic accreditation, whether accredited by the National Center for Academic Accreditation and Evaluation or by international accreditation bodies.
- Strengthen the bridges of cooperation with the community, and improve the quality of services provided by the college to the community.
- The commitment of all faculty members and their involvement in quality assurance processes, and their active participation in all activities.

1.2 Quality Glossary

To help achieve a common understanding of the important concepts and terms used in the accreditation and quality assurance system, we introduce a definition of some commonly used terms.

Term	Definition
Accreditation	It is a recognized certificate issued from an approved organization that approves that the educational program or the institution is following a specific required set of standards and criteria.
Programmatic Accreditation	Accrediting a program by providing the program a certificate that explains that it applies the proper standards of being acceptable as a valid educational program in a certain area with the required level.
Assessment	A diagnostic formula for reviewing quality and evaluating the learning and the teaching process and programs by examining the course curriculums, the organization and infrastructure and the mechanisms of assessing the internal quality in the university.
Academic Program	A set of correlated courses spread over a specified period which qualify the candidate in a specific specialization according to a predefined rules.
Benchmarking	The comparison points or the performance levels used to determine the goals and evaluate the outcomes.
Evaluation	Measuring the performance according to set of standards and predefined criteria.
Institutional Accreditation	Assessing the quality of the educational level of the institution according to a specific set of standards and criteria from an external authority.
Goals	Specific statements that apply missions or desires of the institution/program in specific subjects.
Internal Quality Assurance	The processes done by the educational system to ensure quality in all the activities.
International Accreditation	Accrediting an institution or its programs through an accreditation agency created in a different country.
KPI(s)	Selected principle performance indicators used in assessing the performance.
Learning Outcomes	Knowledge and skills gained from participating in a specific program or taking a specific course.
Mission	It is a general short clear statement describing the workLpurpose of a certain body
Objectives	General statements that describe and provide a guide on putting goals and detailed plans
Outcomes	The results of the learning, teaching and research in the institution.
Quality	There is a lot of definitions for academic quality: It is summarized in achieving the accuracy and high standards with continuous improvement.
Comprehensive Quality	It is a philosophy with tools and techniques that aims to achieve the culture of continuous improvement which is achieved by all the institution workers in order to make the clients happy.

Term	Definition
External Quality Assurance	The processes of assessing and evaluating the institutions, activities and its programs by an external authority.
Quality Management	The management job is to specify and implement the quality strategy and dedicate the recourses and activities towards achieving quality.
Quality Control	Includes the process of controlling the quality, the mechanisms, operational activities that aims to control the system.
Standards	A diagnostic formula for reviewing quality and evaluating the learning and the teaching process and programs by examining the course curriculums, the organization and infrastructure and the mechanisms of assessing the internal quality in the university.

Chapter 2

Planning and Review

2.1 Planning and Review Cycle

The quality assurance process should be applied at the level of courses and programs, and managed at the level of academic departments or colleges. Quality assurance and improvement must be integrated into an ongoing cycle of strategic planning, following-up, evaluation and review. While following-up should be continuous, there are usually two time periods for more formal calendars: an annual period where performance is monitored and adjusted where necessary, and a longer cycle where major adjustments are made periodically. These periodic evaluations should be planned to conform to the external audits performed by the NCAAA every five years.

Although this planning and review cycle is presented as a set of steps in a linear sequence at specific times, steps can be repeated or changed in a flexible manner in practice in response to feedback and changing circumstances. For example, a performance review can lead to the conclusion that targets need to be modified, and then a new development plan is prepared.

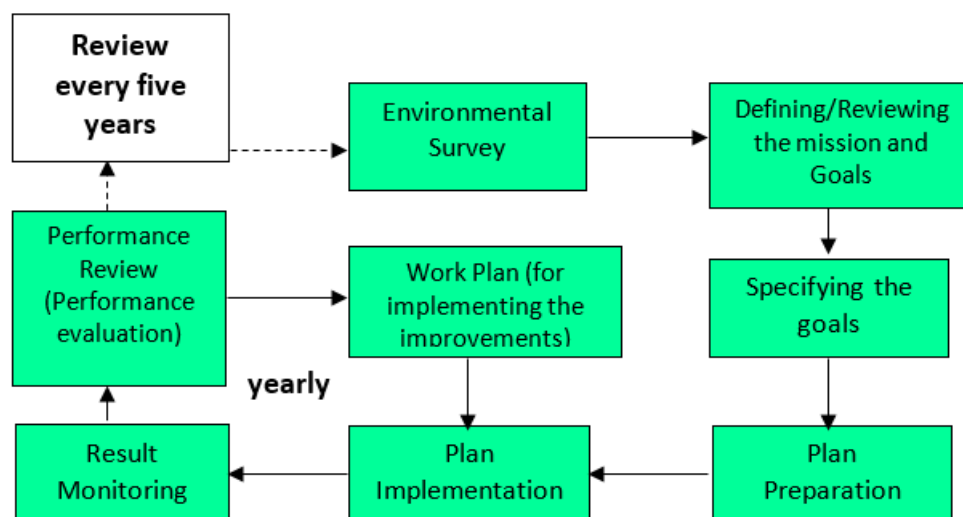


Fig. 2.1: Planning and reviewing cycle

In dealing with these phases, we must recognize that they are related to a number of different levels of activity, for example, for the University as a whole, for the academic and administrative units of the University, for individual programs or for groups of programs run by the department or college.

When applied to quality improvement planning, some of these steps have a special meaning. For example, the initial environmental survey should include a comprehensive assessment of the current quality of performance, and analysis of constraints and opportunities for development. SWOT analysis can be a useful planning tool following the initial evaluation.

Annual Planning and Review:

The main development strategy is usually divided over a five-year period with implementation, following-up and adjustments during the annual work plan. The following suggestions may apply to both near-term plans and stages in the long-term strategy.

Implementation:

It is important to take notes on implementation to ensure that planning steps are carried out according to schedule and to note any discrepancies. Any unforeseen events or problems that should be taken into account in interpreting the results should be recorded.

Monitoring results:

Results should be monitored when plans are implemented on an ongoing basis and adjustments should be made to strategies where necessary if circumstances change, or if desired results are not achieved. Any modifications to the strategy and its reasons should be kept in a special file for use in reviews and further analysis and planning.

Performance evaluation:

Performance evaluation is a key task and should be a formal step in which the plan and events are analyzed during the implementation period so that progress is noted, and there is an opportunity for adjustments in strategies or revision of targets if needed.

Brief observations on performance appraisals should be kept, which can provide much information for more general and extended evaluation in the longer term.

Work plan:

Based on the performance appraisal, the action plan should be prepared with specific wording for any necessary changes in the initial plans for the next period. The term “work” includes the emphasis that specific recommendations and actions are required. The implementation of those recommendations should be followed up and reviewed.

Periodic reviews:

It is important to periodically provide feedback and conduct a thorough and accurate review of the relevance and effectiveness of the work future plan (WFP) operations.

Periodic review should be comprehensive and include a re-examination of the environment in which the program operates and any changes or expected developments of program activities. These audits, as well as any changes in university policies, can lead to changes in medium-term objectives, or even in extreme cases, message modifications. A report should be prepared that includes an analysis of changes in the original plans that may have occurred during the period, assessments of the degree of success in achieving the objectives, and assessments of the strengths and weaknesses that need to be addressed in future planning, and planning responses to these assessments.

The initial purpose of periodic reviews is to support WFP's own efforts to improve, and reports developed for this purpose are also used as the basis for external reviews by the Commission.

Arrangements for planning and reviewing the quality of academic programs:

Various specifications and reports should be prepared showing details based on the following elements of quality planning and review applicable to academic programs:

- Each program prepares specifications for defining program development plans - its mission and learning goals, the courses it covers, the key learning outcomes in the form of targeted learning outcomes, what educational strategies should be used to develop this learning, how teaching and learning assessment will occur, and the quality of the course should be assessed. After the preparation of these specifications, they are followed continuously, although they may be modified from time to time as a result of experimentation or changing circumstances.
- For each course, specific specifications are prepared so that it is clear to the course teachers what they will teach, what their contribution to the whole program, and how their effectiveness should be measured. Course specifications are also applied consistently according to the changes required as a result of the trial. In programs with components of field experience (e.g. cooperative training), field experience specifications are developed to determine planning, organizational arrangements and processes for evaluation.
- At the end of each year (or each time the course is repeated) reports are prepared by the professor who has studied each course that identifies what happened during the course, and provides a summary of the students' results. These reports should be submitted to the Program Coordinator.

- When the Program Coordinator/Director receives the reports of the course, the Program Report prepares the main information on the program delivery in the year concerned, with notes on any recommendations for improvement to be made to the specifications.

If, for any reason, important components of the course could not be covered, or there were other unexpected developments, details should be provided to the Program Coordinator so that any necessary adjustments could be made in subsequent decisions to compensate them. Adjustments to the decision may also be required for other reasons, and the program coordinator/director must be in a position to address any such proposals, taking into account their impact on the overall program.

- Any modifications to the program or courses made in both the program specifications and the course must be noted, with reasons for these changes.

Figure 2.2 shows the sequence of planning and documentation mentioned above.

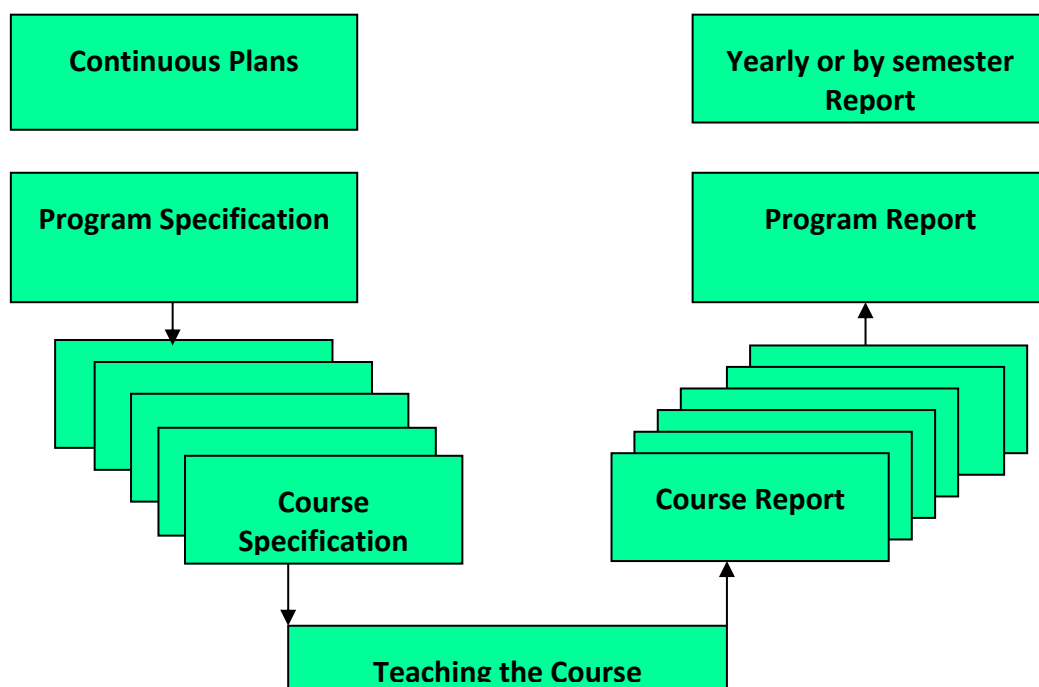


Figure 2.2: Sequencing of planning and documentation processes

These documents, along with any other appropriate material such as course or program evaluations, or information on other matters affecting the program must be kept in the course portfolios and program portfolio, so they can be consulted whenever they are needed later on.

In addition to the annual cycle, a five-year cycle of periodic self-study of the program must be conducted to meet the Commission's academic re-accreditation requirements. These periodic self-studies include receiving feedback from ongoing processes and reviewing all aspects of the program in the light of developments over a period of time and changes in the environment in which students learn.

2.2 Types of Comprehensive Review

2.2.1 Internal Auditing

This is done in two phases, the first stage is an electronic stage through the Daman platform, where the program information uploaded on the platform is examined (see Chapter 5), and the second stage includes field quality tours following the electronic examination under the supervision of the Deanship of Development and Quality. Teams formed by members of the Deanship of Development and Quality and with the help of some of the university faculty members who are experienced and proven to be familiar with the issues of quality. During the tours, the academic quality of the college programs is reviewed through the criteria of the program accreditation standards set by the National Center for Academic Accreditation and Evaluation. After the tours, a report is sent to the faculties containing points of excellence and recommendations for improvement to the necessary parts.

In order to motivate the faculties, an annual ceremony under the patronage of the university dean will reward outstanding and promising programs at the university. These visits are also used to determine the readiness and validity of programs that intend to apply to the National Center for Program Accreditation.

More information about the internal auditing and the organizational structure of the quality in QEC can be found in "Policy and System of Quality in Qassim University".

2.2.2 External Auditing

These reviews are conducted periodically by independent reviewers with expertise brought by colleges for this matter, and all the operations, activities and outputs of the program are evaluated by independent reviewers, and a report of the results of the evaluation is presented to the dean of the college or the quality unit of the faculty.

Documents that external auditors may request:

- 1) Minutes of the department council meetings that contain items related to educational activities and quality work.
- 2) Minutes of the meetings of the committees of the department (the committee to develop plans in the department, the quality committee, etc.).
- 3) The manual of the college written in both Arabic and English languages.
- 4) The manual of the department in both Arabic and English.
- 5) A file containing the curricula vitae of the faculty members in the department written in both Arabic and English languages.
- 6) A file containing the research published by the faculty members in the department during the last three years.
- 7) Copies of books written and translated by faculty members during the last three years.
- 8) Reports on the attendance and participation of faculty members in conferences, seminars and workshops.
- 9) A report on the workshops and training programs conducted by the faculty members in the department.
- 10) A file for each course containing (syllabus written in Arabic or English language)
- 11) Examples of quarterly and final exams, reports, assignments, and typical answers with samples of corrected exams, assignments, research etc.).
- 12) A copy of the textbooks reviewed and approved and references to the department courses.
- 13) A copy of the surveys of students, graduates and employers and report the results of the various surveys.
- 14) Performance Indicators Report.
- 15) Benchmarking reference comparisons report.

Chapter 3

Quality Assurance Unit and Committees of Qassim Engineering College

3.1 Introduction

The quality assurance process and its works and activities needs well organized and collaborative units and committees. This is achieved in QEC through a group of units and supportive committees with well defined authorities, responsibilities and tasks.

3.2 Quality Structure

The structure layout of the planning and quality structure in QEC is shown in Fig. 3.1.

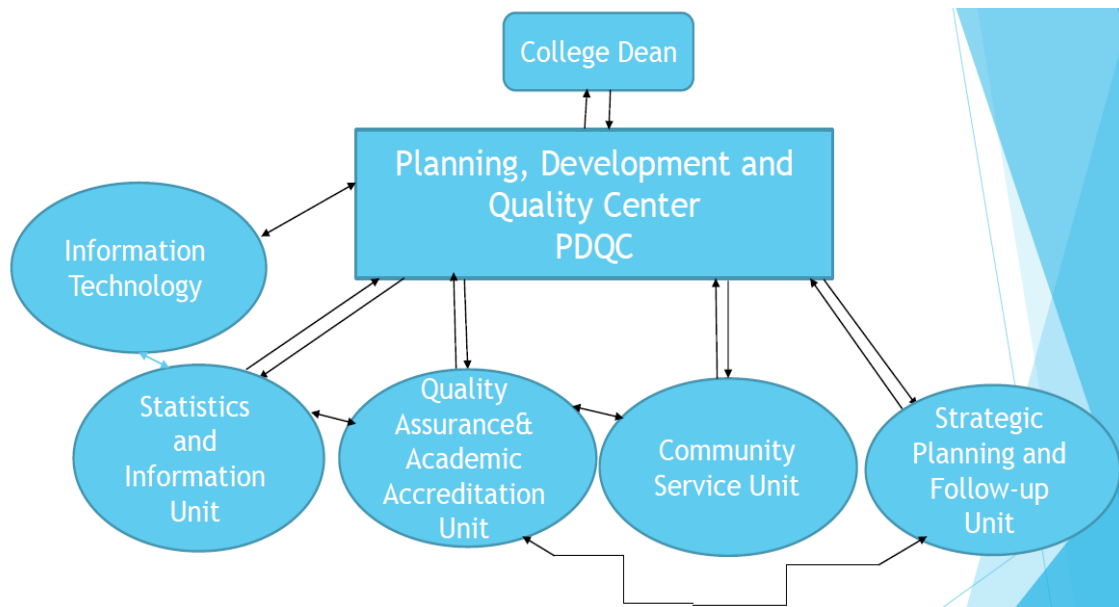


Fig. 3.1: Planning and Quality Assurance Structure Layout

3.3 Quality Assurance and Academic Accreditation Unit

The job of the QAAA Unit is to direct, supervise and arrange the quality assurance and academic accreditation works and activities for all the College programs. It also ensures the proper documentation of these activities. The Unit arranges and facilitates the process of academic accreditation of the College programs in cooperation with the College and programs' administrations.

3.4 Program Quality Structure at the Program Level

The program quality structure at the Program Level is depicted in Fig. 3.2 for EE Program as an example.

The quality assurance is performed at the program level through several committees. These have the following tasks:

- i. Quality Assurance and Academic Accreditation Committee: It is formed of qualified faculty members. The main task of this committee is to apply and monitor the quality assurance system in the Program.
- ii. Assessment Committee: It is formed of qualified faculty members. Its main task is to assess the comebacks of the constituencies' surveys.
- iii. Subject Committees: Each is formed of some of staff members, and deals with a set of courses which serves a common area. The tasks of each subject committee are coordinated by a senior member. The tasks are to evaluate the results of assessment and analysis committee, and recommend suitable improvement actions if it is necessary.

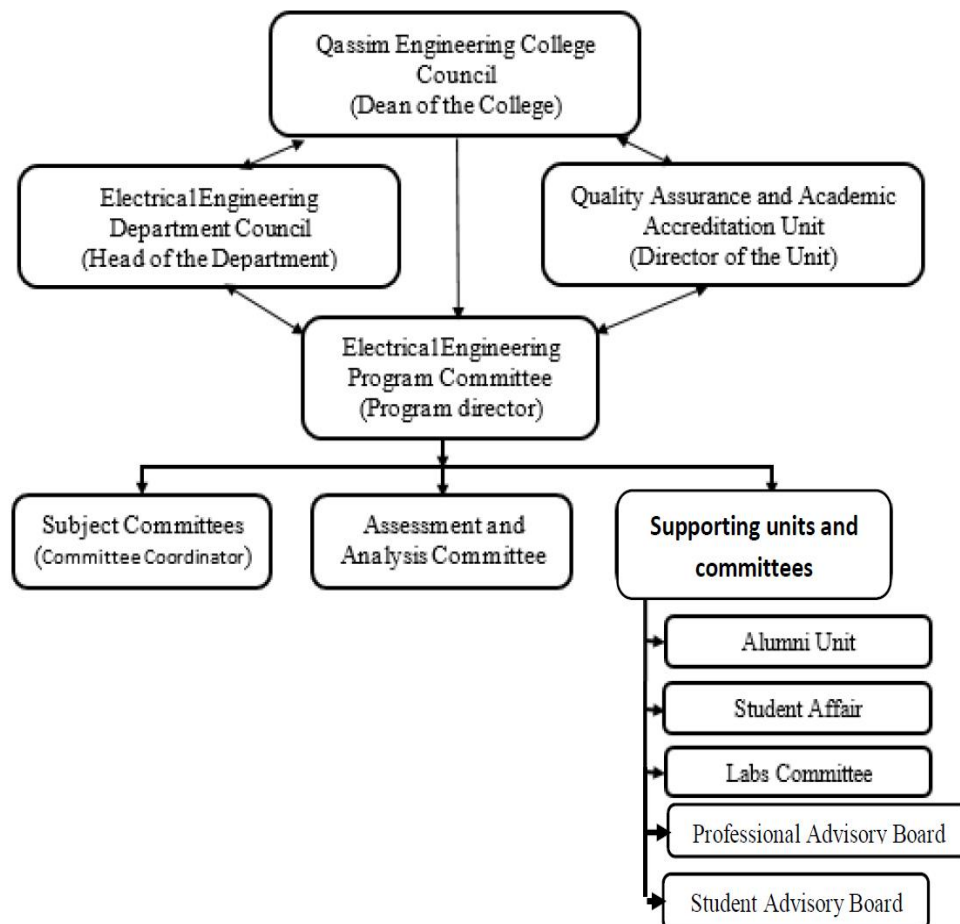


Fig. 3.2: Program Quality structure (EE Program structure as an example)

- iv. Professional Advisory Board: It is established of experienced engineers in addition to few senior staff members and headed by the Head of the Department. Its task is to help in setting and revising the program objectives and outcomes. Also, the board evaluates the alumnae adequacy for the work market. It may suggest improvement actions.
- v. Student Advisory Committee: It is formed of students at different study levels. Its job is to evaluate the educational process, the adequacy of the curriculum, the suitability of the learning resources, and to suggest improvements.

Chapter 4

Quality Assurance for Academic Programs at Qassim Engineering College

4.1 Introduction

The Quality Assurance process for the academic programs begins- in cooperation with the stakeholders/constituencies- with defining the College's mission and strategic goals. The mission reflects the reason/purpose of the college's existence, what we do and who we are targeting. The mission is a comprehensive, detailed and easy to understand statement, describing the reason for the existence of the college and its main areas of activity and the most important stakeholders/constituencies.

The strategic goals of the college state in specific statements the long-term targets of the College, and these goals should be linked to the strategic goals of the University.

Following setting of the College mission, program mission is established. Thereafter, the program graduate attributes and educational objectives are defined. Then, the program learning outcomes (student outcomes) are identified.

4.1.1 Missions and Strategic Goals of QEC BSc Programs

The program mission should be consistent with the institution mission. Moreover, the program strategic goals should be consistent with its mission, institution mission, and institution strategic goals and employers needs.

Missions:

Graduating distinguished civil/electrical/mechanical engineers and performing research and community services in an inspiring, energizing and governable environment to promote self-resources, adopt recent technologies and sustainably develop the Saudi society

Program Strategic Goals:

The strategic goals of the BSc QEC Programs are as follows:

1	Prepare the graduates for a successful career as electrical engineers in governmental and private sectors.
2	Carry out scientific applied research and offer consultation services.
3	Strengthen the communication, cooperation and partnership with the community.

4	Participate in adopting advanced technologies and introducing innovations.
5	Contribute effectively in the sustainable development of the Saudi society.

Graduate attributes:

Each academic program should identify the attributes of its graduated according to its nature and the market needs. These attributes should agree with the general attributes of the graduates of Qassim University, which are as follows:

Attribute No.	Qassim University Graduate Attribute
Knowledge and Understanding:	
1.1	Possession of facts, information, ideas, issues, trends, theories and knowledge relevant to the field of specialization or field of work
1.2	The ability to analyze and critically evaluate information, concepts, methods and theories related to the discipline
1.3	The ability to develop new knowledge gained through innovative scientific research that generally contributes to the field of specialization
Skills:	
2.1	Possess the cognitive and technical skills to analyze and process data and information
2.2	Possess effective communication and information technology skills
2.3	The ability to independently create, design and implement research operations
Values:	
3.1	The ability to take appropriate decisions and assume the role of leadership, and address problems
3.2	The ability to work in a team and solve real problems in the field by linking knowledge and its applications
3.3	Awareness of professional ethics, ethics of scientific research, and ethics of dealing with technology and its tools

Program Educational Objectives

These broad statement about what the student can attain in few years after graduation are to be set. These should satisfy the employers and alumni.

Program Learning Outcomes/Student Outcomes

Therafter, the program learning outcomes; PLOs/SOs, that indicate what the student will gain as a result of learning in the academic program should be identified. These outcomes should be directly express the knowledge, understanding, skills, abilities, competencies, values and ethics that the student will gain by the time of graduation from the academic program.

It is important to make sure that the graduate attributes and PLOs are consistent with the frame of qualifications approved by the Saudi Arabia Ministry of Higher Education and accreditation agencies.

The curriculum, assessment methods and criteria used to evaluate the performance must be consistent with the learning outcomes.

4.2 Quality Assurance Cycle

The quality assurance cycle takes specific years (five years to cope with the NCAAA accreditation period). The course begins with the preparation of the Course Specifications and the course report for each academic program courses each semester taking into account the relevance of the course to the mission and objectives of the program. Improvements to course specifications from feedback can be made from the course report each semester.

In parallel with the course specification and report that are prepared each semester, the program specification and program report are prepared annually. Improvements can be made to the Courses' Specifications and Program Specifications due to feedback from the annual Program Report.

At the end of the fifth year, the quality assurance cycle ends. Figure (4.1) shows the quality assurance course for academic programs.

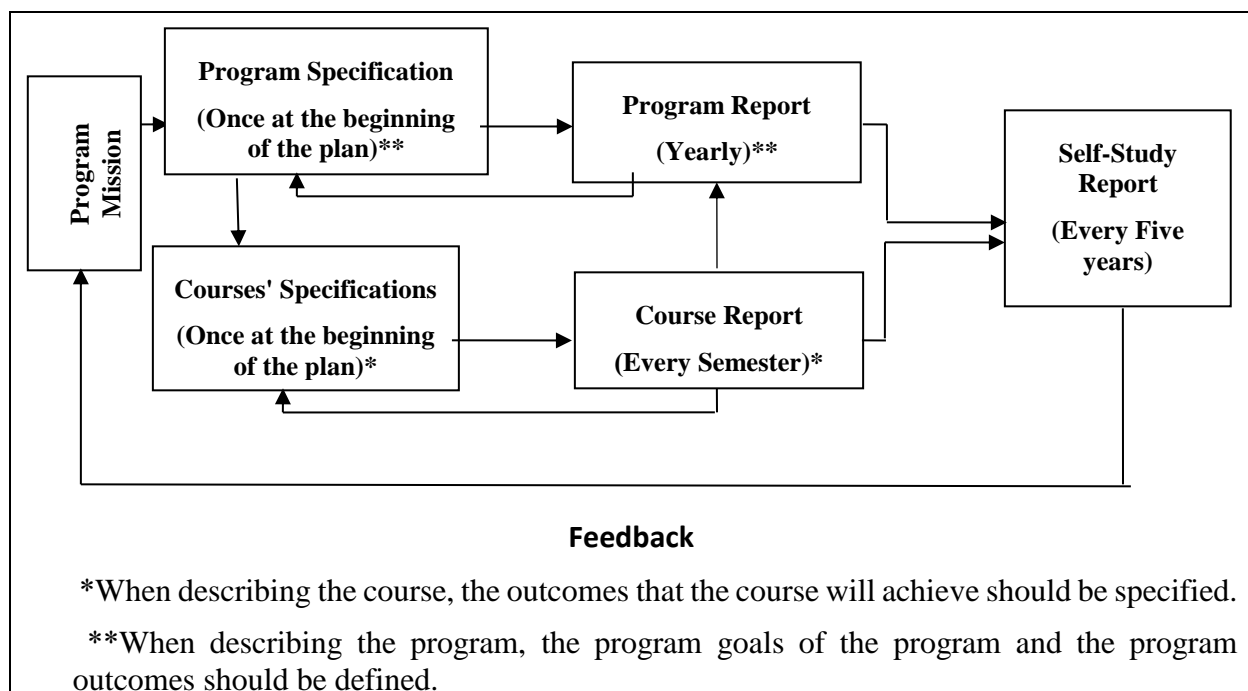


Figure 4.1: Quality Assurance Cycle for Academic Programs

4.3 Continuous Improvement Process

QEC has implemented the quality assurance cycle for academic programs, and improved it to be more detailed and suitable for both national and international accreditation system through the shown continuous improvement process (Fig. 4.2).

The decisions of the improving actions are taken at the Program, Department and College according and following specific steps as illustrated in Fig. 4.3.

4.4 Documents of the NCAAA Accreditation Process

The contents of the specifications and reports required for the NCAAA accreditation process are described below:

First: Program Specification

The [Program Specifications](#) include the following:

A- Program identification and general information

1. The headquarters of the program and its branches
2. The reason for the need for the program
3. Program hours
4. Occupations / jobs for which students are qualified

5. Program paths and exit points if any
6. The relationship of the program (if any) with other programs offered by the college, university or department.

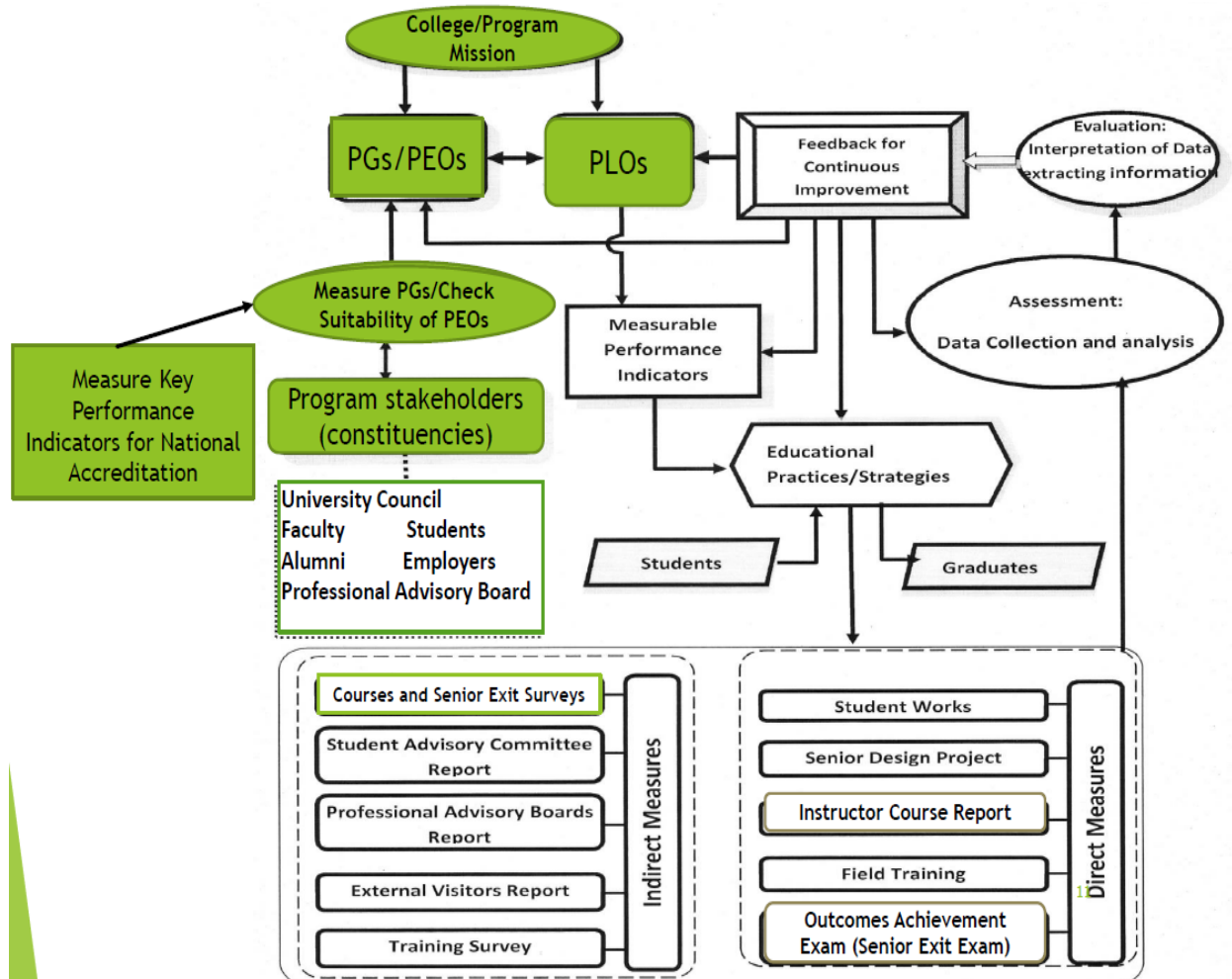


Fig. 4.2: Continuous improvement process

B. Mission, goals and learning outcomes

1. The mission
2. Goals
3. Relationship between program mission and goals of the institution/college
4. Graduate Attributes
5. Learning Outcomes

C. Curriculum

1. Curriculum structure: Includes the requirements of the university, college and program

2. Program study plan: Basic and elective courses, as well as a statement of credit hours requirements, in addition to full details about the courses to be taught in each semester or academic year.
3. [Course Specifications](#).
4. Program learning outcomes mapping matrix: The program learning outcomes are linked to the three levels (x = foundation level, t = practice level, c = mastery level).
5. Teaching and learning strategies to achieve the learning outcomes of the program: Describe the teaching and learning policies and strategies, experiences and different educational attitudes, including classroom and extra-curricular activities appropriate to achieve the targeted learning outcomes in each of its areas.
6. Methods of assessment of learning outcomes of the program: Describe the policies, methods and methods of evaluation used (direct and indirect) to verify students' acquisition of the targeted learning outcomes in each of its areas.

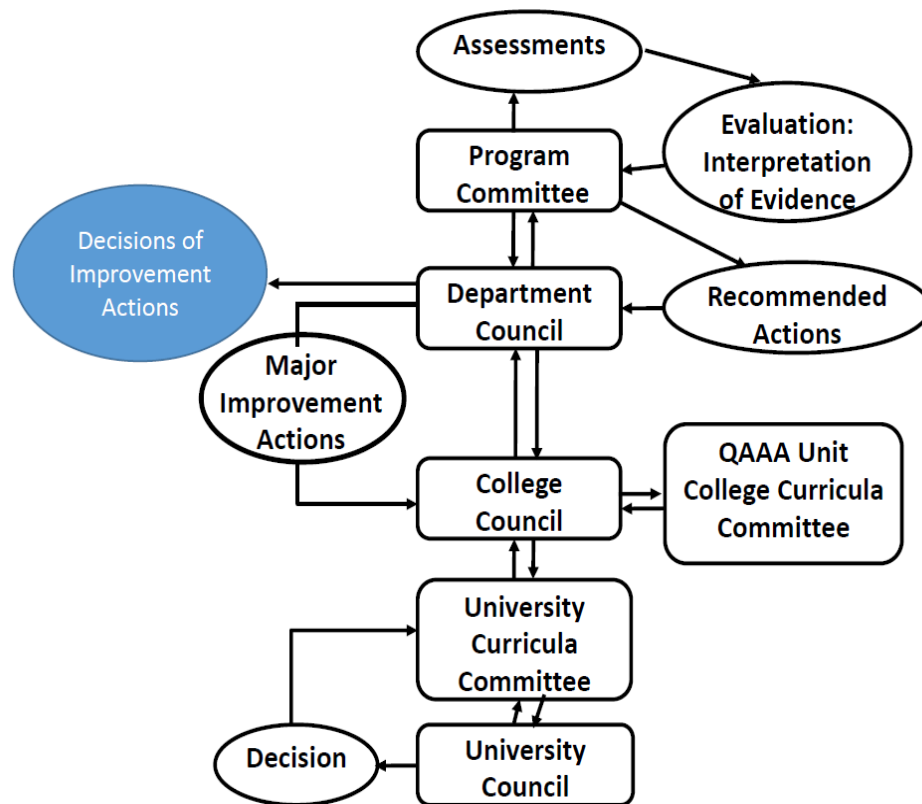


Fig. 4.3: Decision Making Tree of Continuous Improvement Process.

D. Student admission and support

1. Admission requirements
2. Orientation and preparation programs for new students
3. Counseling services: (academic, vocational, psychological, social)
4. Supporting people with special needs:

E. Teaching and administrative staff

1. Requirements of faculty, administrators and technicians.
2. Professional development
 - Preparation of newly appointed faculty: briefly describe the procedures for qualifying newly appointed faculty (including part-time or visiting)
 - Professional development of the faculty: briefly outlines the plan and procedures for the professional and academic development of the faculty (such as: the field of learning and teaching strategies, student assessment, professional aspects etc.)

F. Learning resources, faculties 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.)
2. Facilities and equipment (Library, laboratories, medical facilities, classrooms, etc.).
3. Arrangements to maintain a healthy and safe environment (According to the nature of the program)

G. Program management and regulations

1. Program management
 - Program structure: including councils, departments, units, standing committees, etc.
2. Stakeholders Involvement: describe the mechanism of representation and participation of beneficiaries in the planning and development of the program (students, professional bodies, scientific societies, employers, etc.)
3. Program Regulations: provide a list of the relevant program regulations and their electronic link: admission and registration list, study and examination, recruitment, appeals and complaint regulations, etc.

H. Program quality assurance

1. Quality assurance system in the program: Put the link to the quality assurance system manual
2. Program quality control procedures.

3. Procedures for controlling the quality of program decisions taught through other scientific departments.
4. Procedures to ensure the achievement of parity between the headquarters of the program (two parts: students, students) and other branches.
5. Procedures for applying the institutional controls of the educational and research partnership (if any)
6. Program plan in measuring learning outcomes at the level of the program and mechanisms to take advantage of its results in the development process.
7. Program Quality Evaluation Matrix
 - Evaluation areas (program leadership, teaching and evaluation effectiveness, learning resources, services, partnerships, etc.)
 - Evaluation source (students, alumni, faculty, program leaders, administrators, staff, independent references, etc.)
 - Evaluation method (polls, interviews, visits, etc.)
 - Timing of the evaluation (beginning of semester, end of academic year etc)
8. [Program performance indicators](#)

The period of time to achieve the targeted performance indicators is determined. The performance indicators including the key indicators from the National Center for Academic Accreditation and Evaluation are determined. The method of measurement, targeted value and time of evaluation are to be determined.

I. Specification approval data

Second: Annual Program Report

[The program report](#) is prepared annually, which includes the following information:

A. Implementation of previous action plan

B. Program Statistics

1. Student statistics (in the year of the report)
2. Cohort Analysis of Current Graduate Batch
3. Analysis of Program Statistics

C. Program learning outcomes assessment

1. Program Learning Outcomes Assessment Results
2. Analysis of Program Learning Outcomes Assessment

D. Summary of [course reports](#)

1. Teaching planned courses/units
2. Courses with variations

3. Result Analysis of Course Reports

E. Program activities

1. Student Counseling and Support
2. Development activities of the teaching staff and the supporting body
3. Scientific research and innovation
4. Community partnership
5. Analysis of the results of the evaluation of program activities

F. Program Evaluation

1. [Evaluation of Courses](#)
2. [Students Evaluation of Program Quality](#)
3. Other Evaluations
4. [Key Performance Indicators \(KPIs\)](#)
5. Analysis of Program Evaluation

G. Difficulties and challenges faced program management

H. Program improvement plan

I. Report approving authority

J. attachments

Third: [Course Specifications](#)

The specifications of the course include the following:

A – Course identification

B - Course objectives learning outcomes

1. General description of the course
2. The main objective of the course
3. Learning outcomes of the course

C – Course content

D - Teaching and assessment

1. Linking the learning outcomes of the course with both teaching strategies and assessment methods
2. Student assessment activities

E – Student academic counseling and support

F - Learning resources and facilities

1. List of learning resources
2. Facilities and equipment required

G - Course quality evaluation

H – Specification approval data

Fourth: Course Report

The report of the course includes:

A – Course identification

B – Course delivery

1. Course hours (at semester level)
2. Subjects not covered
3. Teaching strategies
4. Evaluation activities / methods
5. Verifying the credibility of the students' results
6. Recommendations

C - Student results

1. Distribution of estimates
2. Comment on the results of students
3. Recommendations

D – Course learning outcomes

1. The results of measuring the learning outcomes of the course
2. Recommendations

E - Course quality evaluation

1. Evaluation of students for the quality of the course
2. Other calendars
3. Recommendations

F - Difficulties and challenges

G - Course improvement plan

- 1- Course development procedures
- 2- The development plan of the course

Fifth: Field Experience Specifications

The specifications of field experience include:

A- Field experience identification

It includes the name, number of credit hours (if any), level or year in which it is offered, times of submission, location of field experience sites and information about them.

B - Learning outcomes, and training and assessment methods

It contains the following points:

- Measurable learning outcomes in the field allocated to each area.
- Supportive teaching strategies that are compatible with the targeted learning outcomes and methods of evaluation.
- Appropriate assessment methods that accurately measure and evaluate learning outcomes. Learning outcomes, teaching strategies and assessment methods should be consistent and work together as an integrated teaching and learning process.

C. Field experience administration

It includes the following:

1. Field Experience Locations
2. Supervisory Staff
3. Responsibilities
4. Field Experience Implementation
5. Safety and Risk ManagementSafety and Risk Managemen

D. Training quality evaluation

Describe the procedures for evaluating field experience activities and recommendations for improvement by:

- Students: Describe assessment procedures
- Field Supervisory Staff: Describe the evaluation procedures
- Supervisory staff of the teaching staff in the educational institution:
- Others (alumni, collaborators, independent evaluator, etc.): Describe assessment procedures

E. Specification approval data

Sixth: Field Experience Report

The Field Experience Report includes:

A. Field experience identification

It includes the name, number of credit hours (if applicable), the person responsible for the course, the level or year in which it is offered, the time of submission, and the place of the locations of field experience.

B. Training delivery and assessment

This includes the following:

1. Training Methods and Activities
2. Assessment Methods
3. Differences in evaluation
4. Verification of Credibility of Students' Results
5. Recommendations

C. Student results

This includes the following:

1. Distribution of Grades
2. Comment on Student Results
3. Recommendations

D. Field experience learning outcomes:

1. Learning Outcomes Assessment Results
2. Recommendations

E. Field experience quality evaluation

1. Students Evaluation of the Quality of Field Experience
2. Supervisory Staff
3. Other Evaluations
4. Recommendations

F. Difficulties and challenges

G. Field experience improvement plan

1. Field Experience Improvement Actions
2. Action Plan for Next Semester/Year

Seventh: Self Evaluation Scales Report

This report documents the self-evaluation of the various stakeholders focusing groups. The evaluation is carried out for several elements suggested by the NCAAA to cover its established standards and sub-standards. The report indicates- according to the different elements evaluation level the strength points and area of improvements, and address the improvement priorities.

Eighth: Surveys Report

This report documents the results of the various stakeholders' surveys ([students](#), [graduates](#), [employers](#),ect.). The evaluation is carried out for several items suggested by NCAAA proposed surveys. The report indicates- according to the different items evaluation level the strength points and area of improvements, and address the improvement priorities.

Ninth: KPIs Report

This report documents the measured Key Performance Indicator suggested by the NCAAA for the programmatic accreditation level, and other suggested PIs by the programs. The evaluation is then carried out in light of targets which are set by the programs, and external and internal benchmarking. The report indicates- according to the different PIs evaluation level the strength points and area of improvements, and address the improvement priorities.

Tenth: Students' works Course Folders

This includes:

- Student rights
- First Day Material
- [Course specifications](#)
- Course quizzes and their model solutions
- Samples of student answers of the quizzes
- Course assignments and their model solutions
- Samples of student answers of the assignments
- Course mid-term Exams and their model solutions
- Samples of student answers of the mid-term Exams
- Course final Exam and its model solution
- Samples of student answers of the final Exam
- Other course works

4.5 Documents of the ABET Accreditation Process

The process of preparation for International accreditation through ABET organization involves documentation of the following:

First: [Course Syllabi](#)

Second: Students' works Course Folders

This includes:

- Student rights
- First Day Material
- [Course syllabus](#)
- Course description
- Course quizzes and their model solutions
- Samples of student answers of the quizzes
- Course assignments and their model solutions
- Samples of student answers of the assignments
- Course mid-term Exams and their model solutions
- Samples of student answers of the mid-term Exams
- Course final Exam and its model solution
- Samples of student answers of the final Exam
- Other course works

Third: Improvement Actions Course Folders

This includes all improvement actions related to the course and the document showing the source/reason of these actions.

Fourth: Student Outcomes Evaluation Reports

This contains the direct evaluation done through the [Instructor Reports](#) and the indirect evaluation done through the [course surveys](#) and [the senior exit survey](#).

Fifth: Program Educational Objectives Evaluation Report

This report contains the results of both [the employers](#) and [alumni](#) surveys, and the feedback from the Professional Advisory Board.

Chapter Five

Measurement and Evaluation of Academic Programs Outcomes

5.1 Introduction

Learning outcomes are stated by specific sentences showing what the student can demonstrate at the end of the program of knowledge, set of thinking and problem-solving skills, abilities such as the ability to work effectively in groups, the ability to lead, the ability to communicate with different types of audience, and the ability to investigate new and unexpected problems using diverse sources of information, and a commitment to lifelong learning. The goal is to make graduates be able to keep up with the rapid developments of knowledge in their fields, personality traits such as honesty and reliability, and competencies such as proficiency in specific areas.

Measuring and evaluating outputs is an ongoing process, and does not end with the end of the cycle. At the end of the session, an evaluation shall be made to make any amendments to it by examining its previous session. Thereafter, a new cycle shall commence including the suggested modifications.

5.2 Program and Course Outcomes Measurement tools

Program learning outcomes measurement tools include:

- (1) The self-assessment scale report for program evaluation in Higher Education, which should be early completed by focus groups including students, faculty, employers, alumni and other stakeholder when preparing the self-study report.
- (2) Benchmarking comparison which are used to compare program outcomes and some benchmarks with benchmarking outputs for similar programs (see benchmarking table).
- (3) Independent evaluation of external auditors.
- (4) Surveys (Surveys) completed by students, graduates and employers
 - Course survey
 - Student experience survey
 - Program survey
 - Alumni survey
 - Employers survey
- (5) Performance Indicators

- (6) Use of Rubrics (a clear, gradual set of criteria to assess the achievement of learning outcomes) at the program level.

5.3 Student Outcomes Measurements

5.3.1 Student Outcomes Measurement tools

The applied measuring instruments which are used for assessing the SOs are classified into two main categories:

A) Direct assessment measures which include:

- 1- Students course works assessment
- 2- Senior Design Project (SDP) assessment
- 3- Coop/Summer training assessment
- 4- Outcomes Achievement Exam

B) Indirect assessment measures which include:

- 1- Student Surveys (course surveys and senior exit surveys).
- 2- Professional Advisory Board feedbacks and comments.
- 3 External Visitor feedbacks and comments.
- 4- Student Advisory Committee feedbacks and comments.

5.3.2 Types of Assessments

The SOs are assessed and evaluated by linking the program courses to the SOs. Two cycles of evaluation will be carried out over the 6 years ABET accreditation period. SOs are assessed and evaluated using two types; formative assessment and summative assessment. The formative assessment for each outcome is done over consequent levels for selected courses that serve and build this outcome. The assessment is performed for the selected courses at the time these courses are taken by the assessed batch (Scheduled Time). The summative assessment is carried out by the time of graduation, and is applied on selected senior courses, the SDP, Coop./Summer training and the OAE. Thus, this summative evaluation will be done every three years.

5.3.3 Assessment of Student Outcomes of the Courses

Assessment Procedure:

- 1- An assessment cycle starts each 3 years

- 2- The instructors shall relate their courses to the Students' Outcomes precisely and logically.
- 3- As regarding the formative assessment, every semester there will be few chosen courses which should be assessed.
- 4- The instructor should design the Exams, quizzes, reports, etc. such that their parts measure certain outcome of the student outcomes to which their course is highly related.
- 5- For the compulsory courses, the results of the Exams, Quizzes and Reports are to be assessed to evaluate the level of achievement of the highly related outcomes.
- 6- It is required to analyze students' work such as; the Final Exam., the mid-term Exams, quizzes, home-works, assignments and similar works and any other works such as mini projects.
- 7- Then, the instructors should calculate the percentage of students acquired these outcomes and the average percentage grade.

Chapter Six

National Academic Accreditation by NCAAA

6.1 Requirements for Program Accreditation

For a program to submit for an evaluation leading to academic accreditation by the NCAAA, the followings are required:

N	Eligibility Requirements	Notes
1	Final Licensing of the program	<ul style="list-style-type: none">• Decision of opening the program (for governmental Universities).• Final licencing Decision (for Private colleges programs).
2	Compliance with the Saudi qualifications framework	<ul style="list-style-type: none">• A report confirming the compliance of the programs with the Saudi qualifications framework.
3	The availability of the institutional accreditation requirements	<ul style="list-style-type: none">• Receiving institutional accreditation by the University or its eligibility for accreditation.
4	Introductory guides for students and faculty members	Introductory guides available for students and faculty members: <ul style="list-style-type: none">• Introductory guide for a program.• Acceptance and registration.• Regulations of study and tests.• Academic orientation and advising services• Rights and duties.• Complaints and grievances.
5	The program's quality assurance system and its performance reports.	<ul style="list-style-type: none">• Program quality system guide.• Manual of policies and procedures for approving and modifying the program and courses (includes a matrix of authorities in all levels).• The annual report of the program for the last two years according to the template of the National Center.• Course reports for the last two years (one report per course annually).• Reporting the results of opinion polls of stakeholders (students, graduates, employers, faculty members, employees) for the last two years.
6	Program and course specifications	<ul style="list-style-type: none">• Program specification according to the national center template.

N	Eligibility Requirements	Notes
		<ul style="list-style-type: none"> • Course specifications of the program courses classified according to the study levels.
7	Measuring the learning outcomes plan.	<ul style="list-style-type: none"> • Measuring the learning outcomes plan. • Measuring all the learning outcomes report.
8	Graduated Student (at least one batch)	<ul style="list-style-type: none"> • A report of all the graduates and the number of those graduates per year.
9	Program advisory committee	<ul style="list-style-type: none"> • Forming the committee and its duties. • Report measuring the learning outcomes.
10	Key performance indicators and benchmarking	<ul style="list-style-type: none"> • Report of assessing the main signs of the learning outcomes of the program and the revision reference for the last three years.
11	Self-study report of the program	<ul style="list-style-type: none"> • Self-evaluation scales of the program (taking into consideration that every principle practice identified by the Center should be evaluated by not less than three and also each Standard).
Additional requirements for the graduate program		
12	The implementational plan for the practical research and following it up	<ul style="list-style-type: none"> • The implementational plan for the practical research (according to the program nature) • The system of monitoring and documenting scientific research activities in the program • Periodic performance reports of the scientific research plan
13	System of scientific supervision of thesis, projects or vocational training	<ul style="list-style-type: none"> • Manuals, regulations and procedures for scientific supervision on thesis, projects or vocational training • Reports on graduation supervisions in programs

6.2 Program Accreditation Standards

In 2018, the National Center for Academic Assessment and Accreditation (NACAA) developed the standards for baccalaureate accreditation to be six rather than the eleven old standards, and their details are as shown below.

Standard 1: Mission and Goals

The mission of the program should be consistent with the institution's mission. The mission of the program should be applied to the objectives and requirements of the program under consideration. The mission should be clearly and appropriately

defined for the programme's core goals and priorities, and should be influential in guiding its planning and implementation.

The consistency of the program mission with the institution mission does not mean the need to include all the axes in the mission of the university, as the mission of the university is realized with all the efforts of programs, deanships and support units and departments in the university, and planning and decisions must be all in the direction of achieving the mission. There must also be a mechanism to develop and improve the mission.

Standard 2: Program Management and Quality Assurance

Program leadership is the responsibility of the head of the department, and academic leadership is the responsibility of the head of the department and the quality coordinator (program manager for quality). Program management must demonstrate effective leadership, and must reflect an appropriate balance between responsibility to senior management, the institution providing the program, and the flexibility to meet the specific requirements of the program in question. Stakeholders (such as students, professional bodies, employers, and faculty) should be involved in planning procedures, setting goals and objectives, and reviewing and responding to results achieved.

If there are separate female student departments, the resources provided to them should be identical to the male students' departments, and there should be an effective communication mechanism between the two bodies. As a whole and continuously make adjustments quickly in response to feedback and according to developments in the external environment affecting the academic program.

The second standard includes the following sub-criteria:

Program Management

Quality assurance of the program

Standard 3: Teaching and Learning

The learning outcomes of the program are formulated to indicate the student's knowledge, information, abilities, skills and values upon graduation, and the learning outcomes of the course are formulated to show the knowledge, information, abilities, skills and values gained by the end of the course.

Students' learning outcomes should be clearly defined and in line with the Saudi Qualifications Framework (formerly the National Qualifications Framework) and

the requirements of work or professional practice. The quality of education and the effectiveness of programs are assessed by assessing student performance, surveying [graduates](#), [employers](#), and using feedback from those parties as a basis for future development plans.

If the program has a male and female section, the quality standards and learning resources should be the same, and calendars should include separate data for each department. Provide a description of the quality assurance response procedures used to verify that the regulatory framework and arrangements for verifying that teaching and learning are working properly (for example, if measures are taken to verify student achievement levels against appropriate external references, state what were the results of these actions?

The teaching and learning standard includes the following sub-criteria:

Designing the graduates' attributes and learning outcomes

Procedures to ensure that the target learning outcomes are consistent with the Saudi Qualifications Framework (formerly the National Qualifications Framework), and the requirements for career or vocational work as defined by the experts' recommendations or the requirements of the relevant professional bodies or accreditation bodies include:

- Careful review of the National Qualifications Framework.
- [Periodic survey](#) of the knowledge, skills, abilities and values needed by the labor market.
- Quoting from the output determined by some accreditation bodies.

Curriculum

Components of the curriculum of university requirements, college requirements, program requirements, graduation project and [field training](#) /year of excellence with the identification of mandatory and optional parts.

Quality of teaching and assessment of students

This sub-standard includes information on the teaching strategy plans for the development of targeted learning outcomes of the program, assessment of teaching quality, procedures for the preparation of [course reports](#) and [program reports](#), and how to utilize them. This part should include a table showing the proportion of faculty members whose teaching is regularly assessed through student feedback (or through other mechanisms).

It also includes teaching aids for students such as office hours, peer education, and educational courses.

The conclusions reached on the quality of the program as a result of the use of program evaluation and review procedures are presented and, where appropriate, reference to information on indicators and survey results should be noted.

Students are also evaluated and their outputs are evaluated by means of direct and indirect measurement ([course survey](#)).

Standard 4: Students

Admission procedures should be effective, fair and responsive to the needs of students enrolling in the academic program. Dispute resolution and appeals mechanisms are clearly set out and published, fairly administered, and career guidance should be provided to students regarding jobs related to the areas of study that the program deals with.

Much of the responsibility for achieving this standard lies with the institution's management rather than program management, while the program is responsible for evaluating the quality of this standard.

Standard 5: Faculty

Faculty should be optimally qualified and have the appropriate expertise to carry out the teaching responsibilities assigned to them, to use appropriate teaching strategies for different types of learning outcomes, and to participate in activities to improve the effectiveness of education.

The Qualifications and experience of faculty members associated with program requirements should be indicated. The qualifications and experience of faculty members should be highlighted and a report with a list of strengths, recommendations for improvement and implementation priorities should be provided.

Standard 6: Learning Resources, Facilities and Equipment

Educational resource materials and associated services should be sufficient to meet the program requirements and courses offered, accessible to students when needed, and information on academic program requirements should be provided by faculty in time to provide the required resources. Teachers and [students in evaluating the resources](#) provided, and the requirements for references and data sources on the

Internet and computer rooms and assistance in the use of these equipment will vary depending on the nature of the academic program and methodology of teaching.

Facilities should be appropriate, create an atmosphere for the smooth running of the learning process and facilitate program activities.

Procedures for securing the necessary learning resources for the program should be clarified, including opportunities for staff or program administrators to provide the necessary resources, as well as information on the services provided and when they are available. The extent to which the learning resources are equally available. The suitability of facilities and services (classrooms, laboratories, study places, international network equipment, libraries, etc.) available for program activities should be clarified.

Chapter Seven

International Academic Accreditation by ABET

7.1 Introduction

ABET System of Accreditation is an Objectives and Outcomes –Based Accreditation. Its main interest is in

- The suitability of the educational learning objectives and student outcomes of the program.
- The existence of a quality assurance system.
- The efficiency of the process of education.
- The efficiency of measuring and evaluation of the level of achieving the student outcomes.

7.2 Program Eligibility Requirements

The conditions of eligibility of an academic program to submit for the evaluation process by ABET are as follows:

i- Meet ABET’S Definition of a Program

We accredit programs only—not degrees, departments, colleges, institutions, or individuals. We define a program as an integrated, organized experience that culminates in the awarding of a degree. The program will have program educational objectives, student outcomes, a curriculum, faculty, and facilities, as described in the accreditation criteria. We do not accredit certification, training, or doctoral programs.

ii- Be Housed in a Degree-Granting Institution

We accept Requests for Evaluation (RFE) from post-secondary programs offered by degree-granting institutions with verifiable and recognized governmental, national, or regional authority to confer degrees. In some cases, an institution that does not meet this requirement may request an evaluation for a program if that program’s accreditation furthers ABET’s Mission.

Have at Least One Graduate

Programs requesting an initial accreditation review must have at least one graduate prior to the academic year when the on-site review occurs.

iii- Name Must Meet ABET Requirements

The name of a program seeking accreditation must be descriptive of the program's content and be stated exactly the same way on the graduate's transcript and in the institution's literature.

Programs outside the U.S. where English is not the native language, must provide the program's name both in English and in the native language(s). An institution may not use the same program name to identify both an ABET-accredited program and a program that is not ABET-accredited.

iv- Be Accreditable Under at Least One ABET Accreditation Commission

Each program seeking accreditation will be assigned to a specific commission or commissions based upon the literal name of the program:

Applied and Natural Science Accreditation Commission (ANSAC)

Programs accredited by ANSAC are those leading to professional practice utilizing science, mathematics, and engineering concepts as a foundation for discipline-specific practice. ANSAC accredits programs at the following degree levels: associate, bachelor, and master.

Computing Accreditation Commission (CAC)

Programs accredited by CAC are those leading to professional practice across the broad spectrum of computing, computational, information, and informatics disciplines. CAC accredits programs at the following degree level: bachelor.

Engineering Accreditation Commission (EAC)

Programs accredited by EAC are those leading to the professional practice of engineering. All engineering programs requesting ABET review must include the word "engineering" in the program name. EAC accredits programs at the following degree levels: bachelor and master.

Engineering Technology Accreditation Commission (ETAC)

Programs accredited by ETAC prepare baccalaureate degree graduates for careers in sectors such as construction, manufacturing, product design, testing, or technical services and sales. Graduates of two-year engineering technology programs likely assume engineering technician positions in maintenance, production, or product development. The name of every ETAC-accredited program that includes the word "engineering" in the name of the program must also include the word "technology" directly after the word "engineering." ETAC accredits programs at the following degree levels: associate and bachelor.

v- Some Programs Must Undergo a Readiness Review

We require a preliminary [Self-Study Report](#) from all programs seeking initial accreditation, if the institution has no currently ABET-accredited programs in that same commission. After a review of this preliminary Self-Study Report, which is called the Readiness Review, we will determine whether or not an institution is ready to submit a formal Request for Evaluation (RFE) for that program.

7.3 Student Outcomes

ABET organization- EAC Commission has suggested seven student outcomes (SOs) to be applied instead of the eleven old outcomes since 2019. By the time of graduation, the students will demonstrate

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7.4 Program Educational Objectives

Program Educational Objectives are the attributes that the program graduates will be able to successfully attain or accomplish during a short time after graduation.

7.5 Evaluation Criteria

All programs seeking accreditation from the Engineering Accreditation Commission of ABET must demonstrate that they satisfy all of the following General Criteria for Baccalaureate Level Programs.

Criterion 1. Students

Student performance must be evaluated. Student progress must be monitored to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives. Students must be advised regarding curriculum and career matters.

The program must have and enforce policies for accepting both new and transfer students, awarding appropriate academic credit for courses taken at other institutions, and awarding appropriate academic credit for work in lieu of courses taken at the institution. The program must have and enforce procedures to ensure and document that students who graduate meet all graduation requirements.

Criterion 2. Program Educational Objectives

The program must have published program educational objectives that are consistent with the mission of the institution, the needs of the program's various constituencies, and these criteria. There must be a documented, systematically utilized, and effective process, involving program constituencies, for the periodic review of these program educational objectives that ensures they remain consistent with the institutional mission, the program's constituents' needs, and these criteria.

Criterion 3. Student Outcomes

The program must have documented student outcomes that support the program educational objectives. Attainment of these outcomes prepares graduates to enter the professional practice of engineering. Student outcomes are outcomes (1) through (7), plus any additional outcomes that may be articulated by the program.

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Criterion 4. Continuous Improvement

The program must regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The results of these evaluations must be systematically utilized as input for the program's continuous improvement actions. Other available information may also be used to assist in the continuous improvement of the program.

Criterion 5. Curriculum

The curriculum requirements specify subject areas appropriate to engineering but do not prescribe specific courses. The program curriculum must provide adequate content for each area, consistent with the student outcomes and program educational objectives, to ensure that students are prepared to enter the practice of engineering. The curriculum must include:

- a. a minimum of 30 semester credit hours (or equivalent) of a combination of college-level mathematics and basic sciences with experimental experience appropriate to the program.

- b. a minimum of 45 semester credit hours (or equivalent) of engineering topics appropriate to the program, consisting of engineering and computer sciences and engineering design, and utilizing modern engineering tools.
- c. a broad education component that complements the technical content of the curriculum and is consistent with the program educational objectives.
- d. a culminating major engineering design experience that 1) incorporates appropriate engineering standards and multiple constraints, and 2) is based on the knowledge and skills acquired in earlier course work.

Criterion 6. Faculty

The program must demonstrate that the faculty members are of sufficient number and they have the competencies to cover all of the curricular areas of the program. There must be sufficient faculty to accommodate adequate levels of student-faculty interaction, student advising and counseling, university service activities, professional development, and interactions with industrial and professional practitioners, as well as employers of students.

The program faculty must have appropriate qualifications and must have and demonstrate sufficient authority to ensure the proper guidance of the program and to develop and implement processes for the evaluation, assessment, and continuing improvement of the program. The overall competence of the faculty may be judged by such factors as education, diversity of backgrounds, engineering experience, teaching effectiveness and experience, ability to communicate, enthusiasm for developing more effective programs, level of scholarship, participation in professional societies, and licensure as Professional Engineers.

Criterion 7. Facilities

Classrooms, offices, laboratories, and associated equipment must be adequate to support attainment of the student outcomes and to provide an atmosphere conducive to learning. Modern tools, equipment, computing resources, and laboratories appropriate to the program must be available, accessible, and systematically maintained and upgraded to enable students to attain the student outcomes and to support program needs. Students must be provided appropriate guidance regarding the use of the tools, equipment, computing resources, and laboratories available to the program.

The library services and the computing and information infrastructure must be adequate to support the scholarly and professional activities of the students and faculty.

Criterion 8. Institutional Support

Institutional support and leadership must be adequate to ensure the quality and continuity of the program.

Resources including institutional services, financial support, and staff (both administrative and technical) provided to the program must be adequate to meet program needs. The resources available to the program must be sufficient to attract, retain, and provide for the continued professional development of a qualified faculty. The resources available to the program must be sufficient to acquire, maintain, and operate infrastructures, facilities, and equipment appropriate for the program, and to provide an environment in which student outcomes can be attained.

Program Criteria –

These criteria address program-specific requirements within areas of specialization. These criteria have been developed by ABET Member Societies and the commissions. Program Criteria are contained in each commission's criteria document posted on the ABET website: <https://www.abet.org>.

Chapter Eight

Orientation and Academic Advising of the Students

Academic counseling is a pillar of university education in the Kingdom, as it aims to guide students to get the best results and adapt to the university environment and seize the opportunities, by providing them with academic skills that raise their level of educational attainment. Given the importance of academic guidance in the colleges, it is necessary to have a reliable system for academic advising and guidance.

8.1 Fresh Students Orientation

The fresh students receives orientation once they join the College of Engineering through

- i- Orientation presentation arranged by the Student Club and given by senior faculty members. In this presentation, the students are informed about the three BSc programs offered by the College regarding their requirements, academic plan and job opportunities.
- ii- Student hand book and related brochures
- iii- Guides and instructions presented the College site.

8.2 Academic Advising

At the beginning of the students first semester of the program, they are assigned to faculty members as academic advisors. The assignment is random and based on balancing the load among faculty members. This assignment lasts throughout the student's academic program to provide continuity and consistent advising for the student.

8.2.1 Objectives of the Academic Advising

- Preparing students to know and adapt to university life.
- Provide students with correct information about the college, educational policies, resources and study programs.
- Enhancing the academic achievement of students, raising their abilities and overcoming obstacles encountered during their academic achievement.

- Reduced chances of academic failure (preventive counseling).
- Provide advice and assistance to students with academic problems of college students.
- Taking care of students of low academic attainment and following them up to their academic level.
- Care and help students socially, physically, healthy, psychologically and functionally if necessary.
- Give attention to outstanding and talented students, and provide what will enhance their abilities and support their creativity.

8.2.2 Tasks of the Academic Advisor

- Knowledge of the dates of registration, deletion and addition announced by the Deanship of Admission and Registration.
- Knowledge of the college study plan and graduation requirements for students. Ensure that the student's schedule is in line with the college study plan.
- Preparing and updating the file of the academic guidance record for each student, where the counselor opens a special file for each student or group in the group includes the registered material and the level of the student's grades, It includes the cumulative average as well as the minutes of the periodic meetings between the student and the student in addition to any reports or warnings sent by the course decision through which the level of the student can be assessed.
- Organize periodic interviews (at least once at the beginning of each semester) with each student that he supervises in order to:

Identify the performance of students in the last semester.

- Encouraging the student to encourage more praise if he is distinguished in some courses.
- Discuss the difficulties, if any, and seek appropriate solutions.
- Discuss the appropriate options for the student in the next semester (recording or deleting courses, raising the rate, choosing a specialization etc ..).
- Helping the student in case of difficulty in registering or opposing some materials.
- Strict follow-up of the achievement of the student or scientific student in the materials recorded in it and write periodic reports and attach them in the file of the student.
- Addressing staff members if the student's level is low.

- In case the student is not attending or his achievement level is weak, the advisor will intensify the regular meetings and discuss the student or the student accurately about the reasons and try to resolve or raise them to the Committee of Academic Guidance.
- Discover and develop students' talents.
- Helping students to make the most of the e-learning site at the college.
- Urge students to participate in academic and extra-curricular activities.
- It is necessary to build a relationship of academic friendship between the advisor and the student and defrost differences between them.
- Perform the role of the counselor as a social and functional counselor for the student to know his social conditions. Helping to stabilize the student's future career, and contribute to opening up prospects for his job opportunities, training or continuing higher education.
- Allocate office hours to meet students in his office to discuss problems encountered during the study.
- Introducing students to the objectives and mission of the college, its educational programs, scientific departments, and the fields of work of its graduates; and the care and services they provide to their students. They are also enlightened and guided to select appropriate disciplines that match their abilities and potentials.
- Submit periodic reports on the performance of students to the Vice Dean for Academic Affairs. The report includes the academic performance of the student (better or worse than before) and the measures taken to cure the bad performance.
- Urge and encourage students to take advantage of the library and manage time effectively.
- Encourage students to study as groups and benefit from their peers.

It is preferable not to change the student's advisor from enrollment until graduation so that follow-up and coexistence will continue.

Each semester during periods of pre-registration or registration, the student is asked to meet his advisor to review his progress and develop a schedule of courses to be taken during the next semester.

During the advising appointment, the student and advisor use the student's file, transcript, a variety of reports available to faculty through an online information system, departmental students' records, etc. to develop a schedule of classes. This process provides the best progress toward meeting the requirements in all areas, and

assures that all prerequisite and other preliminary restrictions have been satisfied. Thereafter, the student registers for his courses through the University web-site.

The students are fully responsible for complementing their credits for graduation; however the academic advisor has mandatory duties for verifying the student goals and consequently the faculty objectives. So that the academic advisors during the time saved for registering student courses, they must review the following:

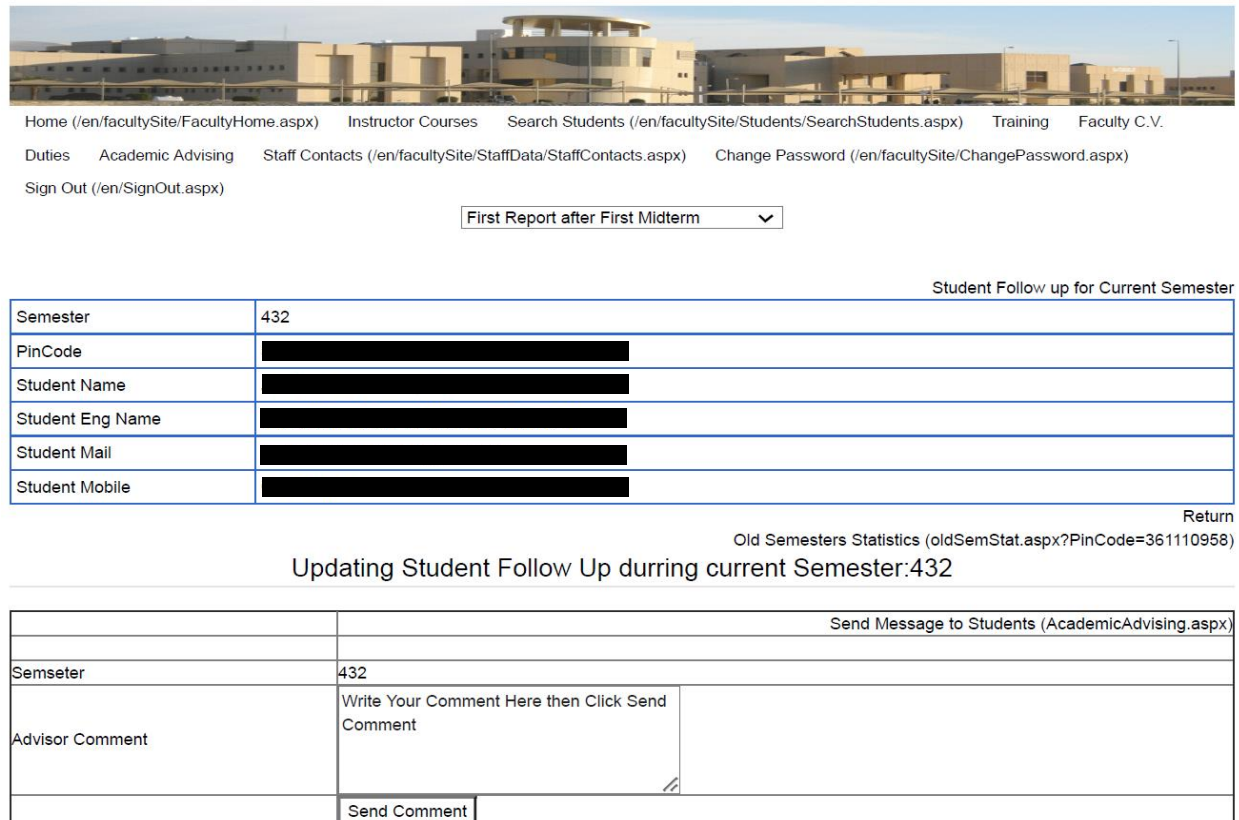
- Ensure that the student is listed in your supervision list,
- Ensure that the student is coming within the time specified by the student affairs unit, e.g., the last year students have the priority for registering courses,
- Ensure that the student has his university ID,
- Ensure that the student has the last updated transcript, i.e., that of the recent semester,
- Ensure that the fully prepared lecture table respects the time slots; i.e., there is no time contradiction between the chosen courses.
- It is not allowed to register any course without fulfilling the course prerequisite and/or the co-requisite courses (can be figured out from the departmental web-page that located at the course description part),
- It is highly recommended to use your experience to advise the student about the subject that must be studied first,
- It is highly recommended to advise the student to print out his final table from the Student Affairs Directorate.
- Please inform the student that his attendance will be considered from the first day of the semester regardless of his registration time.

The senior students usually seek for advice and proper guide for their future career from their advisors. The advisors are urged to play this important role and provide the students with the valuable information they have regarding career planning.

8.3 On-Line Academic Advising

This is performed through the College Site using the instructor account (<https://faculty-qec.qu.edu.sa/en/facultySite/AcademicAdvising/StudentsAdvFlowUpCurrentSemester.aspx>). Through the site, the instructor submits 3 reports over the semester about the performance of each student of the group under his advising. This should be done immediately after the first mid-term Exam, the second mid-term Exam and the final Exam. The reports are sent to the Vice Dean for Academic Affairs for follow-up.

The on-line advising allows the advisor to send e-mails, or call the student for meetings to discuss his performance and the social circumstances affecting his study so that solution may be suggested. Fig. 8.1 shows the screen of the on-line page of advising.



Home (/en/facultySite/FacultyHome.aspx) Instructor Courses Search Students (/en/facultySite/Students/SearchStudents.aspx) Training Faculty C.V.
 Duties Academic Advising Staff Contacts (/en/facultySite/StaffData/StaffContacts.aspx) Change Password (/en/facultySite/ChangePassword.aspx)
 Sign Out (/en/SignOut.aspx)

First Report after First Midterm ▼

Student Follow up for Current Semester

Semester	432
PinCode	██████████
Student Name	██████████
Student Eng Name	██████████
Student Mail	██████████
Student Mobile	██████████

Return
 Old Semesters Statistics (oldSemStat.aspx?PinCode=361110958)

Updating Student Follow Up durring current Semester:432

Send Message to Students (AcademicAdvising.aspx)	
Semseter	432
Advisor Comment	Write Your Comment Here then Click Send Comment
Send Comment	

Fig. 8.1: The advising page (First report)

8.4 Student Responsibility and Role

- Take full responsibility for his academic performance as academic guidance is a mechanism of assistance.
- Undertake the college directory and website to learn about all the requirements of the department, college and university.
- Familiarity with the details of the academic calendar and critical dates related to registration, withdrawal, apology, etc .
- Knowledge of his academic advisor and office hours.
- Meet the mentor to consult on academic and professional goals, program and schedule, and inquire about all aspects of ambiguity.

- Implementation of the guide's recommendations and attendance of the guide as scheduled.
- Notify the advisor of any variables that may affect his program or academic performance.

8.5 Guidance and Counseling Services

Guidance and counseling is an important process that a university student needs in all stages of his university studies. The undergraduate level is quite different from what a student is used to in general education. It is an important stage in building the student's scientific and social personality it is considered a different paradigm shift from general education. The university student manages his scientific, personal and social affairs, and make his own decisions, it may be a stage of excellence or distinction or may be otherwise. To help the student adapt to a new university life that needs some support and guidance. The Department of Guidance and Counseling at the Deanship of Student Affairs works hard to stabilize students and adapt them to the new university environment.

The administration is keen to follow up the students' scientific, psychological and material issues, especially in this age where there are many sources of knowledge so it is important to lighten the path for them, protect them and help them solve any problems and obstacles that stand in their way of success.

The guidance and guidance unit is followed by a guidance and guidance unit in the building of the College of Sharia and Fundamentals of Religion and the College of Arabic Language and Social Studies and the guidance and guidance unit in the Center for University Studies for female students. The administration also seeks to open units in the new colleges, as well as in the colleges of education for girls, and Teachers College in Al-Rass, which joined this year 1428 e to Qassim University.

a. Reception of New Students

The Department of Guidance and Counseling at the Deanship of Student Affairs recognizes the importance of the quality of the definition of newly admitted students to the University). The new program for receiving new students since their admission to the university will be arranged and arranged for the new students since their admission to the University, the student will be given an invitation to attend the reception and the venue with notice of admission to the University in addition to some important and necessary instructions that the student needs to understand before starting their studies. The program aims to prepare the student for a new university life, introducing

the support systems for the students of the university, as well as introducing the students to the faculties they attended and what they offer them. The university's essential facilities, such as the library, restaurants, gyms, photographic centers, bookstores, laboratories, etc.

The reception was organized over two days. The reception program started on the first day of each semester and was graciously sponsored by the University Rector.

8.6 Guidance of the International Students

The international students are divided into two types:

- International students live in the kingdom with official Ikama
- International students from outside the Kingdom and have educational grants

Qassim University cares for both types of international students, and established many units and vice-deanships to guide and help them. These are demonstrated as follows:

- Grant Unit in the Deanship of Student Affairs. This unit looks after the receiving the applications for studying in the University, issuing the visa from the responsible body, after students are officially admitted to the University, the Unit receives them, arranges for their subsistence and accommodation in the University housing, and provide the social care for them, organizes the educational environment and the suitable medical care and whatever helps them to be familiar with the University atmosphere.
- Unit of Teaching the Arabic Language for non-Arabic speakers in College of Arabic Language and Social Studies. It cares for the international students and offer Arabic Language Diploma as a second language. During this Diploma, they practise listening, conversation, reading and writing in multilateral Arabic language.
- Vice-Deanship of Admission and Registration for grants student affairs, which care for:
 - 1- Activating mechanisms of attracting the distinguished international students. The university used to form committees from the faculty to attract the international students from their countries, and meet them as it is keen to attract the talented and creative students. The University found that it enough to use the Admission Gate of the Higher Education Ministry, and nominating the students through the Saudi Culture Councils as governed by the related regulations regarding the admission of the non-Saudi grant students in the Saudi higher education in the Kingdom. The University

cooperates with the Islamic Centers all around the universe, which nominate students for joining the University. Thereafter, the University investigates their files to check their experiences, skills, grades and validity to join the University.

- 2- Application of the rules of admission of the international students as per the regulations of admitting the non-Saudi grant students in the Saudi higher education in the Kingdom.
- 3- The processes of admission of the students, registration, issuing the academic numbers and IDs of the international students.
- 4- Following up the academic status and progress of the international students.

The University presents the supporting programs for the international students to get them familiar with the University society and Al-Qassim region through the Orientation and Guidance Directorate in the Deanship of Student Affairs, preparation programs for new students, and Academic Advising and Orientation units in the colleges. It follows up their academic grades and progress, and checks the satisfaction of graduation requirements through the electronic system in the Admission and Registration Deanship.

Also, the University provide the social and free medical care through the Medical Services Directorate of the University. It periodically explore their opinion and the level of satisfaction about the University services offered to them

Chapter Nine

DAMAN Platform

9.1 Introduction

The National Center for Academic Accreditation and Evaluation is keen to contribute to achieving the Kingdom's Vision 2030 and the National Transformation Program, supporting national trends in the higher education sector, keeping pace with the global changes in the field of quality assurance and academic accreditation. DAMAN is an integrated system that converts electronic accreditation processes and procedures between educational institutions and the National Center for Academic Accreditation and Evaluation from a traditional paper-based system to an integrated electronic system that saves time and Efforts and resources, as well as facilitating communication and answering of all queries electronically, as well as the management of academic accreditation processes for teams of external reviewers used in the accreditation processes.

9.2 The role of the Deanship of Development and Quality

In order to achieve the requirements of the electronic platform, the Deanship of Development and Quality through a team of consultants Deanship carried out the following tasks:

- Building the structure of the university programs: where the faculties of the university were addressed to obtain the program data for registration on the electronic platform, where data of 120 Bachelor and Diploma program were recorded.
- Prepare a user name and secret number for the managers of the quality units in the colleges and supporting deanships and departments as well as for each program manager as per the data received from the faculties of the university.
- Prepare a schedule for uploading program data including the program file, key performance indicators and the five surveys on the electronic platform.
- Set up a Group on WhatsApp for program managers to answer queries related to the electronic platform.
- Open a technical support line throughout the week through advisors from the Deanship to answer queries of quality members or those charged with completing the electronic platform data.

- In line with the policy of the National Center for Assessment and Academic Accreditation, and in order to complement the Deanship of Development and Quality Initiative with regard to field visits and visits, whether evaluation or development, the Deanship has developed mechanisms for quality rounds to include two basic phases. The timeline is followed by the review process and the preliminary evaluation through the competent committee, and then sets a timetable for visiting the programs according to the Committee's views based on the electronic data uploaded on the platform, and then issued the visiting final report.
- Preparing tables on the program "Excel" to facilitate the first evaluation process and determine the extent to which programs meet each of (program file - performance indicators - surveys - self-study).

9.3 Steps to Deal with the Platform

To enter the files and data of the national accreditation and to enter it you type the address below in the address field in the browser: Daman.ncaaa.org.sa

You will then be presented with a login screen where you enter your user name and password from the National Accreditation Authority. The main screen will appear as in Figure 9.1. From this screen, there are several screens that facilitate all the operations available to you through the platform. For example, Figure 9.2 shows the Accreditation Progress screen where you can apply for program accreditation or follow the stages of accreditation of a program that has already been submitted. The link to the annual assessment elements is also shown in Figure 9.1. For example, Figure 9.3 shows the performance indicators input screen. Figure 9.4 shows the self-assessment report entry screen. For example, Figure 9.5 shows reports for faculty members. Finally, Figure 9.6 illustrates the user manual for national accreditation. You can find out more of the capabilities available on the platform by browsing the various sub-screens.

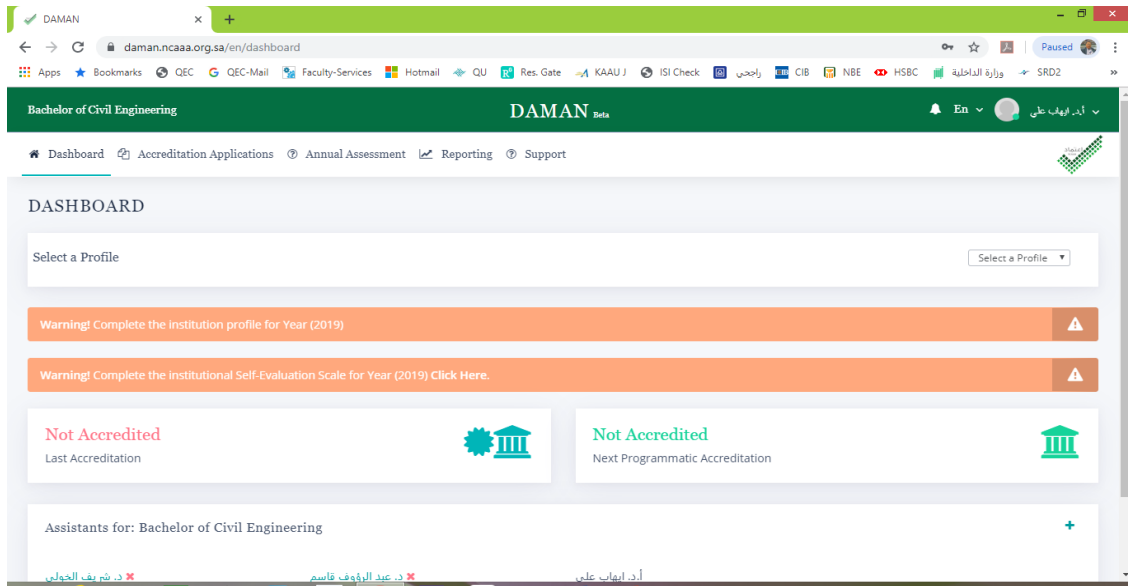


Figure 9.1: Daman main screen

The following screens (9.2-9.6) illustrate the steps to upload data and information through the platform

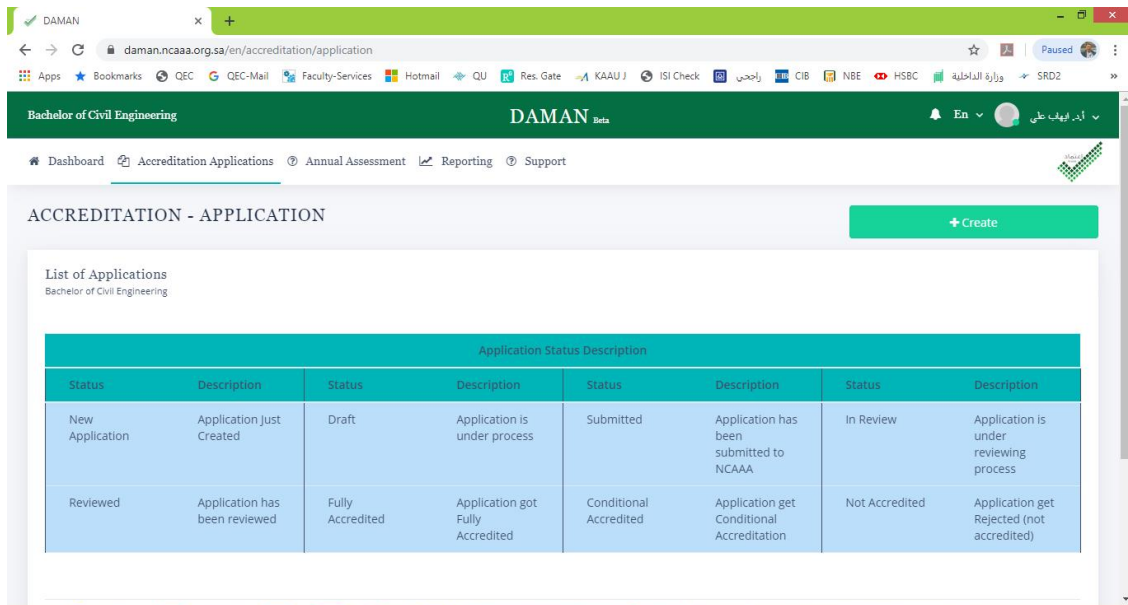


Figure 9.2: Accreditation application screen

Bachelor of Civil Engineering DAMAN Beta NCAAA Standard Version: V.2 (2018) En

Dashboard Accreditation Applications Annual Assessment Reporting Support

KEY PERFORMANCE INDICATORS - MAIN LIST

Select a Profile 2018

KPIs need to be completed for
Year: 2018 - Bachelor of Civil Engineering

Code	Name	Completion	Actions
KPI-P-01	Percentage of achieved target level of KPI of program operational plan	✗	Manage
KPI-P-03	Students' evaluation of the quality of the courses	✗	Manage
KPI-P-04	Completion Rate	✗	Manage
KPI-P-05	First-year students retention rate	✗	Manage

Figure 9.3: Performance Indicators screen

Bachelor of Civil Engineering DAMAN Beta NCAAA Standard Version: V.2 (2018) En

Dashboard Accreditation Applications Annual Assessment Reporting Support

SELF-EVALUATION SCALE - LIST OF PROFILES

List of Self-Evaluation Scales Reports

Name	NCAAA Standard Version	Completion	Actions
Self-Evaluation Scales Report of 2017	V.1 (2009)	0 %	Manage
Self-Evaluation Scales Report of 2018	V.2 (2018)	0 %	Manage

Figure 9.4: Self-Evaluation scales screen

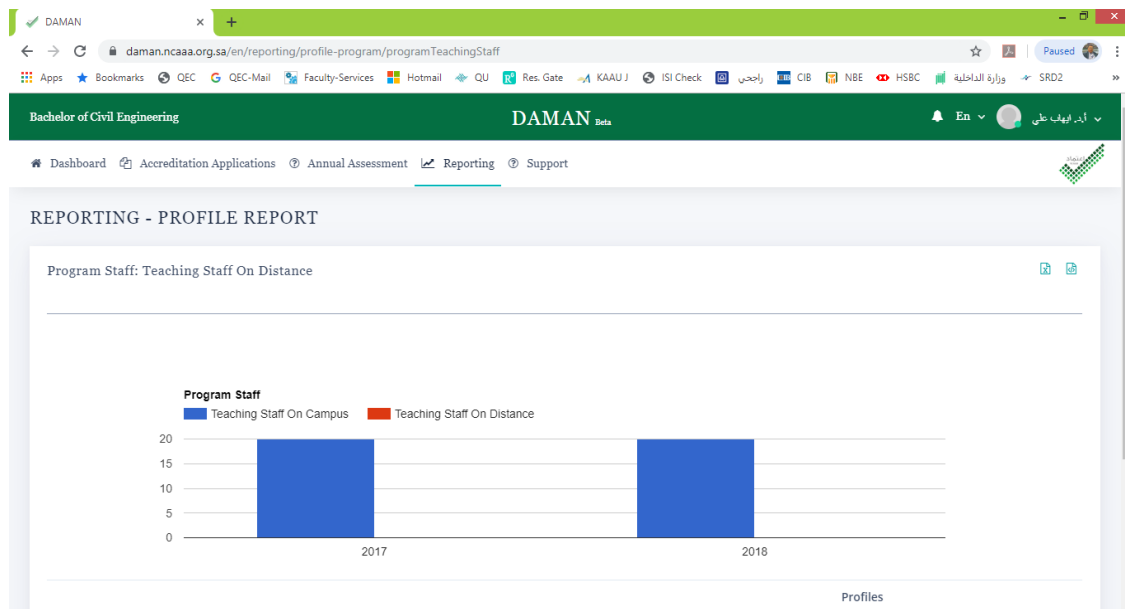


Figure 9.5: Reports: Faculty

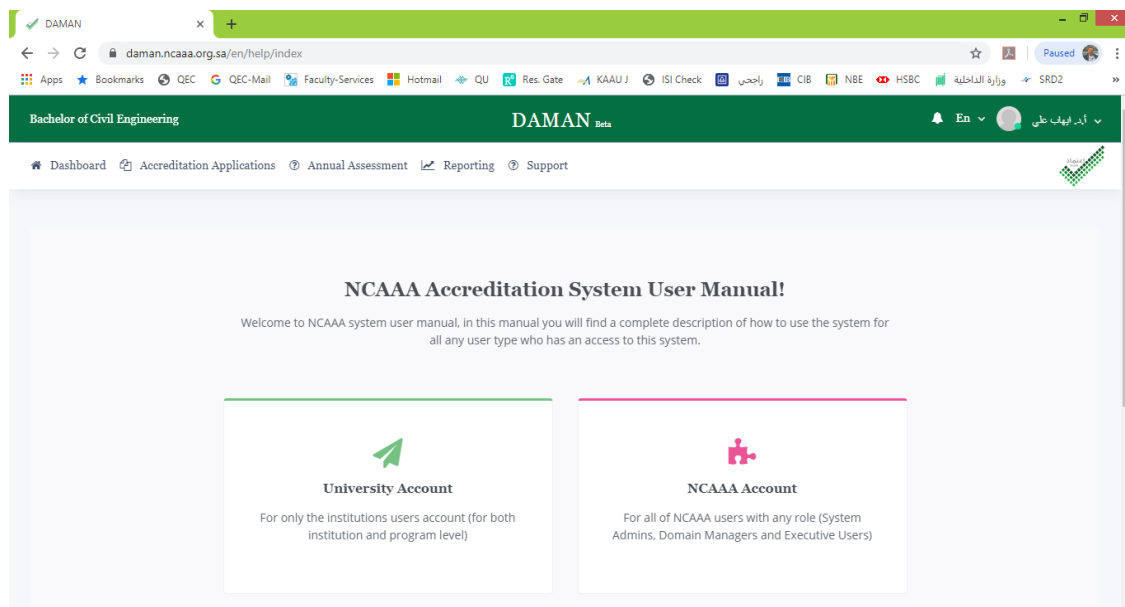


Figure 9.6: User Guide for Dhaman Platform

References

1. Development and Quality Deanship, Qassim University, “Quality System of Academic Programs at Qassim University”, On-Line:
<https://qa.qu.edu.sa/files/shares/handbooks/Quality%20System%20of%20Academic%20Programs.pdf>
2. ABET Organization, ABET Accreditation-Policy-and-Procedure-Manual-2020-2021, On-Line:
<https://www.abet.org/accreditation/accreditation-criteria/accreditation-policy-and-procedure-manual-appm-2020-2021/>
3. NCAAA, National Programmatic Accreditation Forms, On-Line:
<https://www.etec.gov.sa/en/productsandservices/NCAAA/AccreditationProgrammatic/Pages/Forms.aspx>