

**Al-Baha University  
Faculty of Science  
Bachelor's Degree in Mathematics**

**Quality Management System Manual**





## Table of Contents

1. Introduction .....	3
2. Quality Terminology .....	4
3. Mission and Objectives .....	6
4. Program's Graduate Attributes .....	7
5. Program Organizational Structure .....	8
6. National Qualification Framework (NQF) .....	9
7. Quality and Academic Accreditation Unit .....	9
8. Quality Policy and Its Fundamentals in the Program .....	12
9. Quality Management Processes for the Mathematics Program .....	14
A. Quality Management of Teaching and Learning .....	14
B. Research Quality Management .....	16
C. Community Service Quality Management .....	16
D. Program Policies for Community Service .....	17
10. Program Learning Outcomes (PLOs), Teaching Strategies, and Assessment Methods: .....	17
<b>First:</b> Learning Outcomes of the Mathematics Program .....	17
<b>Second:</b> Teaching Strategies .....	21
<b>Third:</b> Assessment Methods .....	21
11. Standards of the Quality Management System Adopted in the Program .....	22
<b>Standard 1:</b> Program Management and Quality Assurance .....	22
<b>Standard 2:</b> Teaching and Learning .....	23
<b>Standard 3:</b> Students .....	24
<b>Standard 4:</b> Faculty .....	25
<b>Standard 5:</b> Learning Resources, Facilities, and Equipment .....	26
12. Program Key Performance Indicators (KPIs) and Benchmarking .....	27
A. Key Performance Indicators (KPIs) .....	27
B. Benefits of Using KPIs in the program .....	30
C. Performance Indicator Levels .....	31
D. Challenges in Measuring Performance .....	31
E. Types of Special Indicators for Educational Institutions .....	31
13. Methods of Collecting Data and Evidence .....	32
A. Examination of Documents .....	33
B. Methods of Observation .....	34
C. Interviews and Individual and Group Discussions .....	35
14. Mechanism of Design, Review and Update of Program Mission and Goals .....	36





15. Roles and Responsibilities of Various Entities in Ensuring Program Quality and Academic Accreditation .....	36
A. Schedules and Exams Committee .....	36
B. Alumni Affairs Committee .....	37
C. Academic Advisory Committee .....	37
D. Curricula and Study Plans Committee .....	37
E. Community Service and Partnership Committee .....	38
F. Graduate Studies and Scientific Research Committee .....	38
G. Development and Quality Committee .....	39
H. Academic Advising Committee .....	39
16. Roles of Program Personnel in Quality Assurance and Academic Accreditation .....	39
A. The Role and Duties of the Head of the Academic Department in Quality Assurance and Academic Accreditation .....	39
B. Functions of the Program Coordinator in Quality Assurance and Academic Accreditation .....	41
C. Role of Faculty Members .....	41
D. Role and Duties of the Coordinator of the Course in Quality Assurance and Academic Accreditation .....	42
E. Student Role in Quality Assurance and Academic Accreditation .....	43
F. Employee Role in Quality Assurance and Academic Accreditation .....	44
17. References .....	45



## 1. Introduction

Quality is originally meant to perform a work according to specifically international standards. Institutional academic accreditation means official decision certificates granted by a recognized body, which affirms that the educational institution has made the conditions, procedures and processes under which it achieves its mission and goals. It has a system to assess its institutional effectiveness. The results of the assessment are used for continuous improvement, and it meets the requirements and standards of quality assurance and accreditation. As for programmatic accreditation, it comes as a testimony from an autonomous establishment that the academic syllabus is accomplishing its pursuit and ends. Similarly, it is based on a system that appraises its effectiveness and the course learning outcomes of the students via the assessment's outcomes for permanent progress. It meets the requirements and standards of quality assurance and specific accreditation from program accreditation body. It should also be noted here that the National Center for Assessment and Academic Accreditation (NCAAA), is the only authorized body for Saudi universities to obtain institutional/programmatic accreditation.

### **Date of establishment of the mathematics program:**

The program was established pursuant to the decision of the higher education council No. (9/37/1426) at its thirty-seventh session held on 30/4/1426 AH. It was approved by the honorable royal decree No. (9683/م ٢) dated 5/8/1426 AH, and the program commenced in 1427 AH. This establishment aims to contribute effectively to expanding the base of higher education in the regions of the Kingdom in the field of mathematics and to meet the needs of the labor market in both the public and private sectors.



## 2. Quality Terminology

1. **Quality:** Achieving accuracy, excellence, proficiency, and continuous improvement in the educational institution, enabling it to gain the trust and respect of society.
2. **Quality System Management:** A set of processes, procedures, and responsibilities necessary to achieve the quality policy and its objectives in accordance with declared and specified standards.
3. **Quality Assurance:** Providing the requirements to achieve, sustain, and improving the quality of performance within the institution, and overcoming the obstacles that hinder the achievement of quality.
4. **Quality Policy:** A framework that defines the strategic directions and overall quality objectives and reflects the extent of commitment to them.
5. **Opinion Poll:** A survey of the opinions of a specific sample (the target groups) using designated tools, most notably questionnaires, meetings, directed interviews, and focus groups.
6. **Program's Stakeholders:** All individuals, both inside and outside the program, who directly influence (or are influenced by) decision-making within the program, its objectives, and activities, and who have an interest related to the program's outcomes.
7. **Academic Accreditation:** An official certificate issued by a recognized authority, confirming that the program or educational institution meets the specific standards set by that authority.
8. **Education & Training Evaluation Commission:** It is the competent authority in the Kingdom responsible for evaluation, assessment, and accreditation of qualifications in education and training in both the public and private sectors, aiming to enhance their quality and efficiency and contribute to the economy and national development.
9. **National Center for Academic Accreditation and Assessment (NCAAA):** The competent and responsible authority in the Kingdom for academic accreditation and quality assurance in educational institutions, including public and private secondary schools.
10. **National Programmatic Accreditation:** An official certificate issued by the Education and Training Evaluation Authority in the Kingdom of Saudi Arabia, confirming that the academic program meets the program accreditation standards at a high level.
11. **Key Performance Indicators:** Quantitative measures to assess the levels of progress in achieving strategic objectives and overall quality goals.
12. **Outcomes Learning:** These are the various areas of knowledge and skills that students acquire upon completing a certain educational level. They are statements describing what a student should know and be able to do. The student is expected to achieve them by the end of a course or a specific educational program. Defining learning outcomes is of great importance for all parties involved in the educational system.



13. **Evaluation:** The process of measuring performance quality in all activities with the aim of continuous performance improvement.
14. **Reference Comparison:** A systematic and ongoing process to assess the performance of an organization or one aspect of this performance by comparing a model, both within and outside the organization, to identify the causes of the gap, to work on it, and to achieve better performance.
15. **Internal Reference Comparison:** This process involves comparing each department within the educational institution with similar sections or departments according to approved and predefined standards.
16. **External Reference Comparison:** The educational institution benchmarks its institutional or program performance against that of other institutions or programs using predefined standards.
17. **Self-comparison:** It is to compare the same institution (program) with its performance in previous years.



### 3. Mission and Objectives

#### Faculty Vision



Distinguished faculty in basic sciences education and scientific research to serve the community.

#### Faculty Mission



Providing distinguished educational and research programs in basic sciences to prepare graduates that contribute to the community service through motivating academic environment and efficient use of the resources.

#### Faculty Objectives



- Creating a distinguished academic environment to increase the competitiveness of the faculty students.
- Achieving excellence in the teaching staff of the faculty.
- Developing and strengthening the scientific research system in the faculty.
- Creating postgraduate programs that meet the needs of the labor market.
- Developing and strengthening community service programs in the faculty.
- Contributing to the development of the own resources of the university.

#### Program Vision



A distinguished mathematics program in education and scientific research for community service.

#### Program Mission



Providing an outstanding academic program in the field of mathematics that qualifies highly skilled graduates who contribute to community service through scientific research and a supportive academic environment.

#### Program Objectives

- Creating a motivating academic environment for both teaching and research.
- Equipping students with the essential knowledge and skills in mathematics to meet the needs of the labour market.
- Enhancing the use of modern technologies to achieve educational and research excellence in mathematics and its applications.
- Developing a robust scientific research framework in the field of mathematics.
- Preparing qualified graduates to contribute to community service.



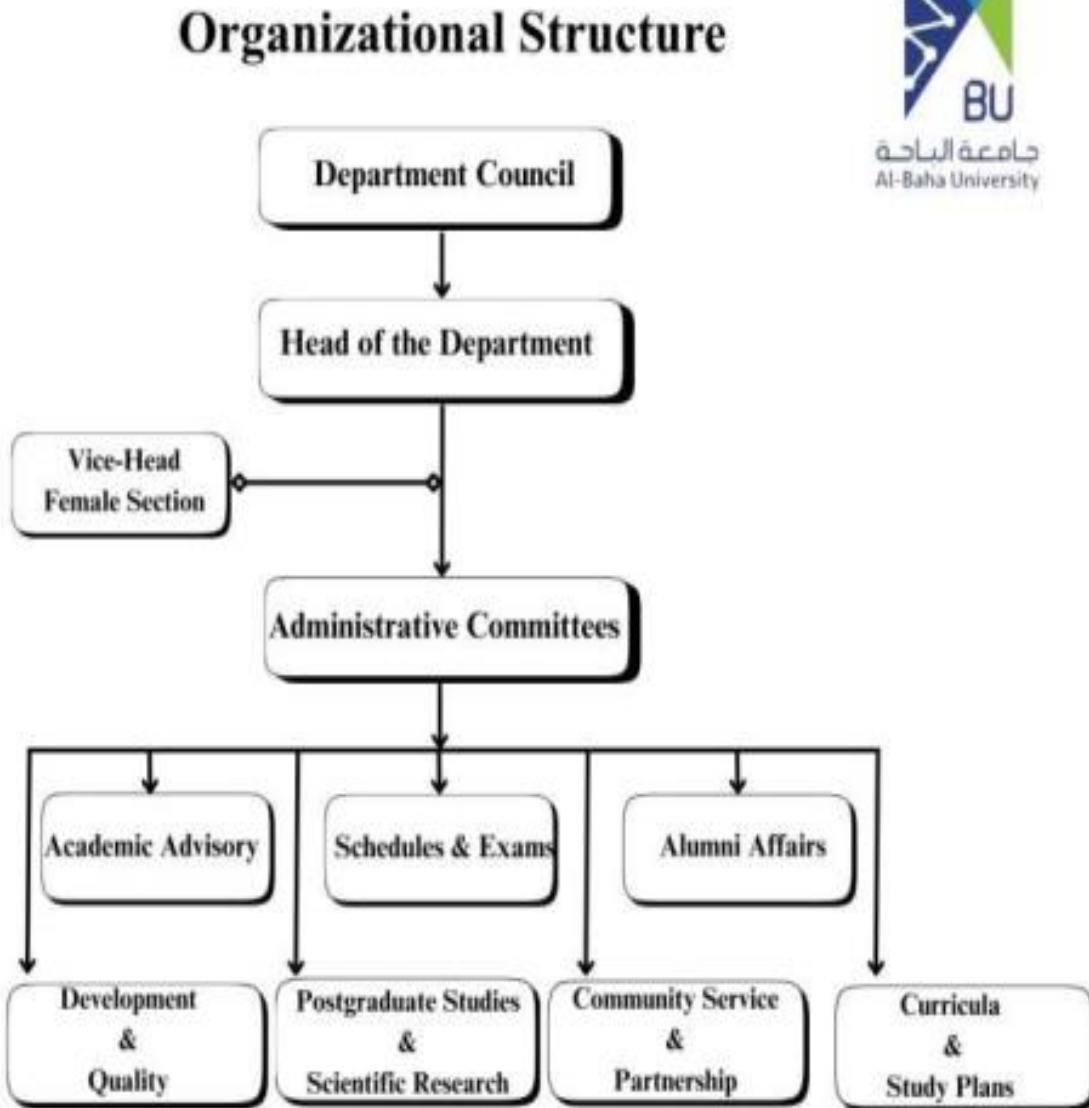
#### 4. Program's Graduate Attributes

Mathematics program adopted same university's graduate attributes. The following table illustrates University Graduate Attributes with correspondent codes.

Program's Graduate Attributes	
Code	Description
PGA 1	<b>Critical thinking and problem solving</b>
PGA 2	<b>Creativity and innovation</b>
PGA 3	<b>Collaboration and teamwork</b>
PGA 4	<b>Communication skills</b>
PGA 5	<b>Information technology and proficiency skills</b>
PGA 6	<b>Information skills</b>
PGA 7	<b>Flexibility and adaptability</b>
PGA 8	<b>Initiative and self-direction skills</b>
PGA 9	<b>Productivity skills</b>



## 5. Program Organizational Structure



## 6. National Qualification Framework (NQF)

The educational institution must ensure that the qualifications are matched with the National Qualifications Framework (NQF) and use qualifications that clearly describe with accuracy the education sector, qualification level and the field of study or specialization as well as the following:

- Commitment to the minimum number of credit hours required for the intended qualification.
- The Program objectives should focus on the development of learning outcomes in all areas of learning required (knowledge, skills, Values, Autonomy, and Responsibility). Learning outcomes mean phrases that describe the knowledge, values and attitudes that expected of the learner to acquire at the end of the educational program or course.
- The levels that are achieved in each learning area are consistent with the graduate attributes and the learning outcomes specified for each qualification level.
- There should be evidence that the required levels (standards) for the learning outcomes of the required qualification have been achieved in each of these areas.
- The accredited hour represents a weekly theoretical lecture (50 minutes) over 12 weeks.
- When designing, the program should take into account the allocated sufficient hours to study at least one hour of memorization per credit hour.
- Academic courses should be upgraded to the level of university education.
- The rest of the course is used to provide students with appropriate backgrounds in related basic sciences.
- The areas of learning within the NQF consist of the following:

## 7. Quality and Academic Accreditation Unit

The quality assurance and academic accreditation unit was established at the faculty in the year 1436 AH, corresponding to the year 2015, in order to complete the components of the internal quality assurance systems in the faculty of science in accordance with local standards (represented by the national authority for academic accreditation and assessment (NCAAA)) and international standards, to be able to continuously develop which qualifies it to obtain academic accreditation from national, regional and international bodies with distinguished reputations.

The quality and academic accreditation unit represents the entity through which the internal evaluation and review is carried out to ensure the quality of the educational, research and service activities of the faculty and the elements that affect it and improve the level of its performance.





The quality and academic accreditation Unit has been approved by the faculty council board to manage the policies and regulations and achieve the quality at the institutional level as well as the program level. Below are the vision, mission, and objectives of the quality unit:



## Unit Vision

Distinction in the faculty development and enhancement of quality practices.



## Unit Mission

Reinforcing quality practices and continuous improvement, and supporting the faculty's units through skills development, participatory planning, comprehensive self-evaluation and quality assurance procedures.



## Unit Goals

- Reinforcing the principle of development and continuous improvement, and dissemination of quality and accreditation values and practices.
- Developing skills of the faculty staff to achieve academic and administrative excellence.
- Accomplishing program accreditations.
- Promoting the practices of teaching, learning and evaluation.
- Raising the efficiency of the general performance level across faculty departments, deanship and units.
- Encouraging creativity and excellence and promoting productive and fair competition.
- Establishing an inclusive and effective system for quality assurance and self-evaluation and supporting strategic planning initiatives.
- Enhancing community partnership with public and private institutions and with the relevant stakeholders.

### Members of the Quality and Academic Accreditation Unit at the College

No.	Name	Position	E-mail address
1	Dean of the college of science (Professor Dr. Sami Aseer Al-Rubaie)	Head of Unit	salrobai@bu.edu.sa
2	Vice dean for development and quality (Dr. Naif Alshehri)	Vice Unit Head	nalshehri@bu.edu.sa
3	Vice dean of the college of science for academic affairs	Member	n.alsenani@bu.edu.sa



	(Dr. Nawaf Ibrahim Al-Senani)		
4	Vice dean of the college of science – Female campus (Dr. Fatimah Saeed Al-Omari)	Member	fsalomari@bu.edu.sa
5	Dr. Obaidullah Ayedh Al-Quthami	Member	oalgethami@bu.edu.sa
6	Dr. Anas Salmi Al-Farsi	Member	alfarsi@bu.edu.sa
7	Dr. Abdullah Aseer Al-Rubaie	Member	aaa.alghamdi@bu.edu.sa
8	Dr. Mohammed Saleh Al-thubyani	Member	malthobyani@bu.edu.sa
9	Dr. Fakher Mohammed Oueslati	Supervisor	falwaslati@bu.edu.sa

### Tasks of the Quality Committee at the Program Level:

The Quality Committee at the program level is responsible for the following tasks:

- Introducing committee members and stakeholders to best practices adopted by the NCAAA.
- Cooperating in the organization of meetings, lectures, seminars, and workshops, and in the preparation of evidence and other activities related to quality assurance and academic accreditation.
- Ensuring the preparation of program and course descriptions in accordance with the templates and requirements of the national center for academic assessment and accreditation.
- Ensuring the preparation, completion, and follow-up of course and program reports.
- Identifying and proposing performance indicators aligned with accreditation standards.
- Forming internal subcommittees to carry out tasks related to quality assurance and academic accreditation within the program.
- Applying evaluation tools to measure the quality of programs, courses, teaching and learning processes, and student services in accordance with approved standards, manuals, indicators, and required evidence.
- Meeting all prerequisites for the approval and implementation of the self-assessment plan for quality assurance at the program level.
- Providing evidence and documentation for accreditation standards, and preparing, classifying, organizing, and archiving standard files in accordance with approved practices.
- Preparing internal and external benchmarking studies for various performance indicators.
- Preparing quality assurance and evaluation reports and submitting them to the college quality and academic accreditation committee.
- Submitting recommendations to the department council based on evaluation reports and their results and ensuring the implementation of improvement and development plans.



- Preparing the annual program report.
- Planning and conducting the program self-study through the relevant standards committees within the program.
- Completing all measurement and assessment documents related to accreditation standards.
- Preparing the self-study report in accordance with academic accreditation requirements.
- Preparing for and participating in internal and external review and accreditation visits.

## 8. Quality Policy and Its Fundamentals in the Program

The program is committed to achieving high standards of quality in teaching, learning, research, and community service. It regularly reviews its educational and administrative services to ensure alignment with recent developments in the discipline, labor market needs, national standards and frameworks, governmental regulations, and stakeholder expectations. The program adopts a systematic quality management approach that emphasizes continuous improvement, stakeholder engagement, and evidence-based, measurable outcomes.

Accordingly, the program is committed to the following principles:

- Supporting the implementation of the program's operational plan and achieving its stated objectives.
- Meeting beneficiary requirements and continuously striving to exceed their expectations through periodic review of quality objectives in accordance with the program accreditation standards of the National Center for Academic Assessment and Accreditation under the Education and Training Evaluation Authority.
- Preparing qualified graduates capable of contributing to the advancement of the Kingdom, meeting labor market needs, and keeping pace with scientific developments in psychological and educational fields.
- Providing continuous training and professional development opportunities for all program affiliates, including faculty members and students, and ensuring a supportive environment that enhances the educational process.
- Conducting continuous evaluation of all inputs, processes, and outputs, and developing appropriate plans to ensure continuous improvement across all aspects of the educational process.



- Engaging all stakeholders and program affiliates in planning, development, and decision-making processes.
- Promoting a culture of quality and continuous improvement across all program practices.

## Methodology of the Program Quality System

The program's quality management system primarily operates through four main stages: Planning (Plan), Implementation (Do), Evaluation (Check), and Improvement and Adjustment (Act). This is a dynamic cycle, where each cycle concludes and the next begins continuously, embodying the spirit of quality through continuous improvement. Accordingly, the program is committed to systematic planning at all levels and setting measurable objectives; monitoring and evaluating the implementation of planned activities and their expected outcomes; and utilizing evaluation results to inform improvement actions across all aspects, including teaching, research, community service, governance, and administration. This methodology can be applied to the program as a comprehensive approach across all its practices within the four stages of the quality processes, as follows:

### 1) Planning Stage of Quality Processes

- Defining objectives in alignment with the program mission and approved performance indicators to determine the level of achievement.
- Developing the program's operational plan based on its objectives, improvement initiatives, accreditation requirements, and stakeholder feedback, in alignment with performance indicators.
- Engaging faculty members in quality assurance planning, program and course design, and learning outcomes assessment.
- Involving faculty members in the development of the annual operational plan and the identification of strategic priorities.

### 2) Implementation Stage of Quality Assurance Processes

- Monitoring the implementation of the quality system by program management and the Quality Committee, covering teaching, learning, assessment, facilities, activities, and training for faculty and students, while fostering a culture of quality.
- Engaging program affiliates in quality assurance through participation in various committees, including development, research, training, community service, facilities, and the annual operational plan.



### 3) Evaluation Stage of Quality Assurance Processes

- Monitoring and reviewing program performance through periodic reports, course reports, the annual program report, self-assessment indicators, benchmarking studies, beneficiary survey feedback, and other relevant evaluation tools. Data is collected, analyzed, documented, and reported to support evidence-based improvement planning.
- Involving all beneficiaries in evaluating the effectiveness of quality assurance processes through satisfaction surveys and feedback mechanisms.
- Ensuring the active role of the Quality and Development Committee in reviewing, evaluating, and preparing quality assurance reports.

### 4) Improvement and Enhancement Stage of Quality Assurance Processes

- Developing or updating improvement plans, strategies, objectives, and learning outcomes based on evaluation results, thereby completing the quality cycle.
- Achieving continuous improvement through the development and implementation of an operational plan that incorporates approved recommendations and improvement initiatives derived from the annual program report, unified survey reports, operational plan achievement reports, performance indicators report, and other relevant quality documents.

## 9. Quality Management Processes for the Mathematics Program

### A. Quality Management of Teaching and Learning

The Mathematics Program seeks to ensure and enhance the quality of teaching and learning in accordance with Total Quality Management systems. The methodology for managing the quality of teaching and learning is based on the following:

- The program defines graduate attributes and intended learning outcomes in alignment with its mission and in harmony with the graduate attributes at the institutional level. These are formally approved, publicly announced, and periodically reviewed.
- Graduate attributes and learning outcomes are aligned with the requirements of the Saudi Qualifications Framework (SQF), relevant academic and professional standards, and labor market needs.
- The program adheres to institutional policies, standards, and procedures in the design, development, and modification of the curriculum.



- The curriculum is designed to achieve program objectives and learning outcomes, while considering scientific, technological, and professional developments in the field of specialization, and is reviewed periodically.
- The study plan ensures a balance between general education requirements and specialization requirements, as well as between theoretical and practical components, while maintaining proper sequencing and integration among courses.
- The curriculum includes integrated curricular and extracurricular activities that contribute to the achievement of learning outcomes.
- Course learning outcomes are aligned with program learning outcomes through a mapping matrix that distributes program learning outcomes across courses.
- Teaching and learning strategies, as well as assessment methods, are aligned with the intended learning outcomes at both the program and course levels.
- Teaching and learning strategies are student-centered and promote active learning.
- A variety of teaching and learning strategies and assessment methods are employed in the program in a manner appropriate to its nature and level, supporting the development of research skills and ensuring the acquisition of higher order thinking skills and self-directed learning.
- The learning outcomes of field training activities are aligned with the program learning outcomes, with appropriate training strategies, assessment methods, and training sites identified to achieve these outcomes.
- The program monitors faculty members' commitment to the teaching, learning, and assessment strategies specified in the program and course specifications through defined mechanisms.
- At the beginning of each course, students are provided with comprehensive information that includes the learning outcomes, teaching and learning strategies, assessment methods and their schedules, and what is expected of them throughout the course.
- The program implements clear procedures to ensure the quality, validity, and reliability of assessments, including grading accuracy and coverage of learning outcomes.
- Mechanisms, such as plagiarism detection software, are used to verify that students' work is their own.
- Students receive timely feedback to help improve their academic performance.
- Faculty selection and retention follow approved policies to maintain high standards.
- Adequate faculty numbers are ensured across all program delivery sites.
- Faculty regularly engage in academic activities-conferences, research, seminars, and peer review-to stay updated in their fields; participation and scholarly output are considered in evaluations and promotions.



- Faculty contribute to research, program evaluation, and institutional development activities.
- Faculty performance is regularly assessed against clear criteria, and feedback is used to enhance performance.
- Admission and registration criteria are approved, fair, and aligned with program requirements.
- Policies for credit transfer and recognition of prior learning are fair and applied consistently.
- Comprehensive orientation is provided to new students to ensure understanding of available services and resources.
- The program addresses students' special needs, including those of students with disabilities.
- Effective mechanisms ensure students' regular attendance and active participation in courses and field experiences.

## B. Research Quality Management

The methodology for managing the quality of scientific research is based on the following:

- The program encourages its faculty members to publish scientific research in alignment with the program's mission and objectives.
- Mechanisms are in place to ensure adherence to ethical standards in conducting and publishing research.
- Program plans include clearly defined indicators for targeted performance in the field of scientific research.
- The program promotes collaboration with the health and service sectors as well as other research institutions. Forms of collaboration may include joint research projects, shared use of information, and cooperative development strategies.

## C. Community Service Quality Management

Contributing to community service is considered a key responsibility of a higher education institution. The program's community service quality management is achieved through the following:

- The program provides facilities and services to support community development.
- Faculty and staff are encouraged to actively contribute to community service initiatives.
- Program information and activities are made accessible and well publicized.
- Community perceptions of the program are monitored, and strategies are adopted to enhance its image and reputation.



- Activities and services support individuals, organizations, and local communities, including financial aid, extracurricular programs, academic qualifications, research projects, and community education programs.
- The program leverages faculty expertise and resources in teaching, research, and cultural activities to serve the community.
- Opportunities are provided for community participation in cultural activities, consultative programs, and research addressing local needs, with faculty encouraged to take active roles aligned with their expertise.

#### D. Program Policies for Community Service

The program's community service policies are based on the following:

- The services provided by the program align with its mission and are relevant to the community or communities in which the program operates.
- The program prepares annual reports on its contributions to the community.
- Faculty promotion and evaluation criteria include consideration of their contributions to community service.

### 10. Program Learning Outcomes (PLOs), Teaching Strategies, and Assessment

#### Methods:

##### First: Learning Outcomes of the Mathematics Program

Learning outcomes are statements that describe what a student is expected to know or be able to do after completing a course. Accordingly, they describe the expected achievements of students in terms of knowledge, skills, and values because of the educational process. Learning outcomes can be identified within three domains of the educational process: knowledge, skills, and values.

##### Mechanism of Designing Program Learning outcomes

The program identifies learning outcomes through the following steps including:

- Reviewing the educational objectives and learning outcomes of the program in the light of the requirements of the benchmarking report of the plan, the labor market, the professional bodies, and the National Commission for Academic Accreditation.
- The mathematics program learning outcomes are reviewed and updated periodically.
- Approving the direct and indirect of the evaluation methods.



- Preparation of the program description in accordance with the forms of the National Commission for Academic Accreditation and Assessment and submitted to the (program council for review and accreditation).
- Participate in the preparation and review of the program performance indicators (KPIs) and their approval by the Quality Unit and the preparation of the report of performance indicators and recommendations for improvement.
- Collection and analysis of a set of program surveys including:
  - Program evaluation survey (PES),
  - students experience survey (SES),
  - Courses evaluation survey (CES),
  - Employers' evaluation
- Collection and analysis of program KPIs

The education which a learner needs includes the necessary knowledge, understanding, skills, and values to obtain the relevant qualifications organized according to each level specified in the Framework. These levels progress gradually in terms of scope and sequence, from the entry level to level 12. They are expressed in terms of the dimensions of knowledge and understanding, values, autonomy, and responsibility, and skills according to the following criteria:

#### **Knowledge and Understanding**

This refers to a learner's knowledge and understanding in their field of study, work, or profession, encompassing depth (general or specialized), breadth (single or multidisciplinary), type (concrete to abstract, segmented to cumulative), and complexity (a combination of depth, breadth, and type).

#### **Skills**

Skills as learning outcomes refer to the abilities a learner acquires to apply knowledge effectively in practical, cognitive, or professional tasks, demonstrating competence, problem-solving, and adaptability in relevant contexts.

#### **Values, Autonomy, and Responsibility**

Values, autonomy, and responsibility as learning outcomes refer to a learner's ability to demonstrate ethical behavior, make independent decisions, take ownership of their actions, and act responsibly in personal, academic, and professional contexts.

### **Learning Outcomes of the Mathematics Program**

#### **Knowledge and understanding**

**K1** Students should be able to define mathematical concepts and other concepts in other different sciences.



K2	Students should be able to state mathematical axioms and theorems.
<b>Skills</b>	
S1	Students should be able to apply mathematical concepts, axioms and theorems in solving mathematical problems by both analytical and numerical methods.
S2	Students should be able to construct mathematical arguments and proofs of mathematical theorems.
S3	Students should be able to write the relevant mathematical ideas and relations to mathematical formulas (Diagrams, graphs, curves and mathematical tables, etc).
S4	Students should be able to use suitable communications and information technologies to collect and analyze and interpret the given information verbally and written.
<b>Values, Autonomy, and Responsibility</b>	
V1	Students should be able to develop self-learning skills.
V2	Students should be able to take academic responsibility for their own learning.

### Program learning outcomes mapping matrix:

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

Course code & No.	Program Learning Outcomes							
	Knowledge and understanding		Skills				Values, Autonomy, and Responsibility	
	K1	K2	S1	S2	S3	S4	V1	V2
ISLM1001	I						I	I
ARAB 1001	I						I	I
BIO 1001	I						I	I
PHYS 1001	I	I	I				I	I
ISLM 1003	I						I	I
HIST 1001	I						I	I
CHEM 1001	I						I	I
ISLM 1002	I						I	I
CS 1002	I			I	I		I	I
ENGL 1005	I						I	I
Calculus (1) MATH1001	I	I	I	M	M		I	
MATH1002	I	I	I	M			I	I
MATH1003	I	I	I		M		I	I
STAT1251	I	I	I		M	I	I	
MATH1250	I	I	P	M	M		I	
MATH1251	I	I	I	M			I	I
MATH1252	P	I	P	M			I	I



MATH1253	P	I	P	M	M		I	
MATH1254	M	M	M	M			P	P
MATH1255	P	P	P	M			P	P
MATH1256	P	P	P	M			P	P
STAT1252	P	P	P		M		P	P
MATH1257	P	P	P	M		P	P	M
MATH1258	P	P	P	M		P	P	M
MATH1259	P	M	M	M			P	M
STAT1500	P	M	M	M			P	M
MATH1500	P	M	P	M			P	P
MATH1501	P	M	P		M		P	P
MATH1502	P	M	P	M			P	P
MATH1503	M	M	M	M		M	P	M
MATH1504	M	M	M	M			M	M
MATH1505	M	M	M	M			P	M
MATH1506	P	M	M		M		P	M
MATH1507	P	M	M	M			P	M
MATH1508	M	M	M	M	M	M	M	
MATH1509	M	M	M	M		M	M	M
MATH1560	P	M	M	M			M	M
MATH1750	M	M	M	M			M	M
MATH1751	P	M	M	M			M	M
MATH1752	M	M	M	M		M	M	M
MATH1753	P	M	M	M			M	M
MATH1754	P	M	M		M		M	M
MATH1750	M	M	M			M	M	M
MATH1756	M	M	M	M		M	M	M
CS1774	M	M	M	M		M	M	M
MATH1757	M	M	M		M		M	M
MATH1758	M	M	M	M		M	M	M
Elective Courses								
MATH1759	M	M	M	M			M	M
MATH1760	M	M	M	M			M	M
MATH1761	M	M	M	M			M	M
MATH1762	M	M	M	M			M	M
MATH1763	M	M	M	M			M	M
MATH1764	M	M	M	M			M	M
MATH1765	M	M	M	M			M	M
MATH1766	M	M	M	M			M	M
MATH1755	M	M	M	M			M	M



## Second: Teaching Strategies

The teaching strategies used in the mathematics program are defined as follows:

No.	Learning Outcomes	
Knowledge and understanding	<p>Students should be able to define mathematical concepts and other concepts in other different sciences.</p> <p>Students should be able to state mathematical axioms and theorems.</p>	<ul style="list-style-type: none"> <li>- Lecture.</li> <li>- Brainstorming.</li> </ul>
Skills	<p>Students should be able to apply mathematical concepts, axioms and theorems in solving mathematical problems by both analytical and numerical methods.</p> <p>Students should be able to construct mathematical arguments and proofs of mathematical theorems.</p> <p>Students should be able to write the relevant mathematical ideas and relations to mathematical formulas (Diagrams, graphs, curves and mathematical tables, etc).</p> <p>Students should be able to use suitable communications and information technologies to collect and analyze and interpret the given information verbally and written.</p>	<ul style="list-style-type: none"> <li>- Lecture.</li> <li>- Problem solving.</li> <li>- Dialogue and discussion.</li> <li>- Continuous assessment</li> </ul>
Values, Autonomy, and Responsibility	<p>Students should be able to develop self-learning skills.</p> <p>Students should be able to take academic responsibility for their own learning.</p>	<ul style="list-style-type: none"> <li>- Collaborative learning.</li> <li>- Self-learning.</li> <li>- Interactive learning.</li> <li>- Presentations.</li> </ul>

## Third: Assessment Methods

A Brief definition of the assessment methods used in the mathematics program

Assessment Methods	Definition
<b>Direct Methods:</b>	<ul style="list-style-type: none"> <li>- Written tests (semester and final).</li> <li>- Assessment of assignments and projects using rubrics.</li> <li>- Rubrics.</li> <li>- Research project.</li> <li>- Student presentations.</li> <li>- Students grade at graduation.</li> </ul>
<b>Indirect methods:</b>	<ul style="list-style-type: none"> <li>- Surveys of students enrolled in the program.</li> <li>- Surveys of faculty members.</li> <li>- Surveys of program graduates.</li> <li>- Personal interviews with students enrolled in the program.</li> <li>- Surveys of stakeholders.</li> </ul>



## 11. Standards of the Quality Management System Adopted in the Program

The program adopts the program accreditation standards issued by the NCAAA as the main standards for its quality management system. The programmatic quality standards consist of five standards according to the NCAAA's criteria, which are:

### Standard 1: Program Management and Quality Assurance

The program must have effective leadership that implements the institutional systems, policies, and regulations. The program leadership must plan, implement, monitor, and activate a quality assurance system that achieves continuous development of program performance in a framework of integrity, transparency, and fairness and within a supportive organizational climate.

No.	Description
1-1	Program Management
1-1-1	The program's mission and goals are consistent with the mission of the institution/college and guide all its operations and activities.
1-1-2	<b>The program has a sufficient number of qualified staff to perform its administrative, professional, and technical tasks, and they have defined tasks and authorities. *</b>
1-1-3	The program provides an organizational climate and a supportive academic environment.
1-1-4	The program management monitors the achievement of its goals, and actions are taken for improvement.
1-1-5	The program management applies mechanisms ensuring integrity, fairness, and equality in all its academic and administrative practices, and between the male and female student sections and branches (if any).
1-1-6	The program builds on the views of professionals and experts in the program specialization, contributing to its evaluation, development, and performance improvement.
1-1-7	The program management provides reliable and publicly disclosed information to the community about the program description, performance, and achievements that suit the needs of the stakeholders.
1-1-8	<b>The program management is committed to activating the values of scientific integrity, intellectual property rights, rules of ethical practices, and proper conduct in all academic, research, administrative, and service fields and activities. *</b>
1-1-9	The program management applies the systems, regulations, and procedures the institution/college approves, including grievances, complaints, and disciplinary cases.
1-2	Program Quality Assurance



1-2-1	The program management implements an effective quality assurance and management system that is consistent with the institution's quality system.
1-2-2	<b>The program analyzes the key performance indicators and the evaluation data annually, and results are used in planning, development, and decision-making processes. *</b>
1-2-3	The program conducts a periodic comprehensive evaluation, prepares improvement plans, and follows up on its implementation.

### Standard 2: Teaching and Learning

Learning outcomes at the program level must be precisely defined, consistent with the requirements of the national qualification's framework and with the related specialized academic standards and the labor market requirements. The curriculum must conform to professional requirements. The teaching staff must implement diverse and effective teaching and learning strategies and assessment methods that are appropriate to the different learning outcomes. The extent of achievement of learning outcomes must be assessed through a variety of means, and the results are used for continuous improvement.

No.	Description
2-1	<b>Learning Outcomes</b>
2-1-1	The program identifies its intended learning outcomes, which are consistent with its mission and aligned with the specialized academic standards and graduate attributes at the institutional level; they are approved, publicly disclosed, and periodically reviewed.
2-1-2	<b>The learning outcomes are consistent with the requirements of the National Qualifications Framework, academic standards, and labor market needs.*</b>
2-1-3	The program identifies the learning outcomes for the different tracks (if any).
2-1-4	The program applies appropriate mechanisms and tools for measuring the learning outcomes and verifying their achievement according to specific performance levels and assessment plans.*
2-1-5	The Program implements a clear and approved teaching, learning, and evaluation strategy that articulates its educational philosophy and ensures that the Program's intended learning outcomes are achieved.
2-2	<b>Curriculum</b>
2-2-1	<b>The curriculum design considers fulfilling the program goals and learning outcomes as the educational, scientific, technical, and professional developments in the field of specialization and is periodically reviewed.*</b>
2-2-2	<b>The study plan ensures the balance between the general and specialty requirements and between theoretical and applied aspects, and it considers the courses' sequencing and integration.*</b>



2-2-3	The construction of the program study plan considers identifying exit-point requirements (if any) based on international practices and similar programs.
2-2-4	The learning outcomes in the courses are aligned with the program learning outcomes (e.g., Matrix for aligning the learning outcomes of the courses with program learning outcomes).
2-2-5	Teaching and learning strategies and assessment methods vary according to the program's nature and level and are aligned with its learning outcomes.
2-2-6	The program verifies the effectiveness of field training and the quality of its supervision and, according to specific mechanisms, follows up on operators' commitment to their mandated tasks.
2-2-7	<b>The program ensures a unified application of its study plan as well as the program and the course specifications offered at more than one site (sections of male and female students and different branches).*</b>
2-3	<b>Quality of Teaching and Students' Assessment</b>
2-3-1	<b>The program monitors the commitment of the teaching staff to the learning and teaching strategies and assessment methods included in the program and course specifications through specific mechanisms.*</b>
2-3-2	The teaching staff is provided with the necessary training on learning and teaching strategies and assessment methods identified in the program and course specifications, along with the effective use of modern and advanced technology, and their use is monitored.
2-3-3	At the beginning of each course, students are provided with comprehensive information about the course, including learning outcomes, teaching and learning strategies, and assessment methods and dates, as well as what is expected from them during the study of the course and feedback on their performance is provided for them.
2-3-4	The program applies mechanisms to support and motivate excellence in teaching and encourages the creativity and innovation of the teaching staff.
2-3-5	The program implements clear and publicized procedures to verify the quality and validity of the assessment methods and ensure the level of student achievement.
2-3-6	<b>Effective procedures are used to control academic integrity at the program level to verify that the work and assignments of students are their own. *</b>

### Standard 3: Students

The criteria and requirements for student admissions in the program must be clear and publicly disclosed and must be applied fairly. The information about the program and the requirements for completion of the study must be available, and students must be informed about their rights and duties. The program must provide effective guidance and counseling services, and extracurricular and enriching activities to



its students. The program must evaluate the quality of all services and activities offered to its students and improve them. The program must follow its graduates.

No.	Description
<b>3-0</b>	<b>Students</b>
3-0-1	The program applies approved and disclosed criteria and requirements for the admission, registration, and graduation of students, the transition to another program, and the equivalent of what students have previously learned, commensurate with the nature of the program, and are applied fairly.
3-0-2	The program provides essential information to students, such as study requirements, services, and financial fees (if any), through various means.
3-0-3	<b>Students are provided with effective academic, professional, psychological, and social guidance and counseling services through qualified and sufficient staff. *</b>
3-0-4	Mechanisms are applied to identify gifted, creative, talented, and underachieving students in the program, and appropriate programs are available to care for, motivate, and support each group.
3-0-5	Students in the program are offered extracurricular activities in various fields to develop their abilities and skills, and the program takes appropriate actions to support and motivate their participation.
3-0-6	The program effectively communicates with alumni, involves them in its events and activities, explores their views and benefits from their expertise and support, and provides updated and comprehensive databases about them.
3-0-7	<b>Effective mechanisms are applied to evaluate the adequacy and quality of services provided to students and measure their satisfaction with them, and the results are used for improvement. *</b>

#### Standard 4: Faculty

The program must have enough qualified and competent faculty members with the necessary experience to fulfill their responsibilities. Faculty should be aware of academic and professional developments in their fields, participate in research, community service, and program and institutional development, and have their performance evaluated against defined standards, with results used for improvement.

No.	Description
<b>3-0</b>	<b>Faculty</b>
4-0-1	<b>The program has an adequate number of faculty members at all sites where it is offered and appropriate verification mechanisms are applied. *</b>



No.	Description
4-0-2	The teaching and adjunct staff in the professional programs include some experienced and highly skilled professionals in the field of the program.
4-0-3	The teaching staff participate in academic, research and scientific production activities efficiently and regularly, and their participation in these activities is considered as one of the criteria for their evaluation and promotion.
4-0-4	Teaching staff participate in community partnership activities; and their participation in these activities is considered as one of the criteria for their evaluation and promotion.
4-0-5	Teaching staff participate in professional and academic development programs in accordance with a plan that meets their needs and contributes to the development of their performance.
4-0-6	The performance of the teaching staff is regularly assessed according to specific and published criteria; feedback is provided to them; and the results are used in improving the performance.

### Standard 5: Learning Resources, Facilities, and Equipment

Learning resources, facilities, and equipment must be sufficient to meet the needs of the program and its courses and be accessible to all beneficiaries in an organized manner. Faculty and students should participate in identifying these resources based on needs and evaluating their effectiveness.

No.	Description
5-0-1	The program ensures the adequacy and appropriateness of learning sources and services provided in accordance with its needs and student numbers and updates them periodically.
5-0-2	The program's teaching staff, students, and employees have the appropriate orientation, technical training, and support for the effective use of resources and means of learning.
5-0-3	Safety, environmental conservation, and hazardous waste disposal standards are applied efficiently and effectively, and all public and occupational health and safety requirements are made available in facilities, equipment, and educational and research activities. *
5-0-4	The program has the appropriate technologies, services, and environment for courses offered through distance or e-learning according to their own specific standards.
5-0-5	The program evaluates the effectiveness and efficiency of all types of learning resources, facilities, and equipment; the results are used for improvement.



## 12. Program Key Performance Indicators (KPIs) and Benchmarking

Performance indicators are important tools for assessing the quality of academic programs and monitoring their performance. They contribute to continuous development processes and decision-making support.

### A. Key Performance Indicators (KPIs)

The national center for academic accreditation and evaluation has identified 11 key performance indicators at the program level. All of which are in line with the program accreditation standards version 2022. These indicators are the minimum to be periodically measured, and the academic program can use additional performance indicators if it believes they are necessary to ensure the quality of the program. The program also adopted a list of 19 KPIs approved by the supreme committee for development and quality at Al-Baha university.

It is expected that the academic program measures the key performance indicators by benchmarking using the appropriate tools, such as (Surveys, Statistical data, etc.) according to the nature and objective of each indicator, as well as determining the following levels for each indicator:

- Actual performance.
- Targeted performance level.
- Internal reference (Internal benchmark).
- External reference (External benchmark).
- New target performance level.

A report describing and analyzing the results of each indicator (including performance changes and comparisons according to sites and gender) is expected with precise and objective identification of strengths and aspects that need improvement. A list of the KPIs is given in the table below:

**The KPIs mandated by NCAAA are given in the following table.**

No.	Code	KPIs	Description	Measurement	
				Method	Time
<b>Program Performance Indicators</b>					
1	KPI-P-01	Students' Evaluation of quality of learning experience in the program	Average of overall rating of final year students for the quality of learning experience in the program on a five-point scale in an annual survey	Statistical data and analysis Questionnaires	Annually (end of academic year)
2	KPI-P-02	Students' evaluation of the quality of	Average students overall rating for the quality of courses on a five-point scale in an annual survey	Questionnaires: - Program evaluation questionnaire	Annually (end of academic



		the courses			year)
3	KPI-P-03	Completion rate	Proportion of undergraduate students who completed the program in minimum time in each cohort	Statistical data and analysis	Annually (end of academic year)
4	KPI-P-04	First-year students retention rate	Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year	Statistical data and analysis	Annually (end of academic year)
5	KPI-P-05	Students' performance in the professional and/or national examinations	Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median (if any)	Statistical data and analysis	Annually (end of academic year)
6	KPI-P-06	Graduates' employability and enrolment in postgraduate programs	Percentage of graduates from the program who within a year of graduation were: a. employed b. enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year	Statistical data and analysis	Annually (beginning of academic year)
7	KPI-P-07	Employers' evaluation of the program graduate's proficiency	Average of overall rating of employers for the proficiency of the program graduates on a five-point scale in an annual survey	Questionnaires	Annually (end of academic year)
8	KPI-P-08	Ratio of students to teaching staff	Ratio of the total number of students to the total number of full-time and full-time equivalent teaching staff in the program	Statistical data	Annually (beginning of academic year)
9	KPI-P-09	Percentage of publications of faculty members	Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program	Statistical data	Annually (end of academic year)



10	KPI-P-10	Rate of published research per faculty member	The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year)	Statistical data	Annually (end of academic year)
11	KPI-P-11	Citations rate in referred journals per faculty member	The average number of citations in referred journals from published research per faculty member in the program (total number of citations in referred journals from published research for full-time or equivalent faculty members to the total research published).	Statistical data Google Scholar and similar	Statistical data

Institutional performance indicators					
12	KPI-I-05	Stakeholder evaluation of learning sources	Average rating of satisfaction of beneficiaries (faculty, students) with resources. Learning, on a five-level scale in an annual survey in terms of a) Its adequacy and diversity (references, periodicals, information sources...etc.) b) Support services provided to benefit from.	Questionnaires: Program evaluation questionnaire	Annually (end of academic year)
13	KPI-I-07	Students' evaluation of offered services	Average rating of student satisfaction with the various services provided by the institution (Restaurants, transportation, sports facilities, academic advising....) on a scale of Five levels in an annual student survey.	Questionnaires: Program evaluation questionnaire	Annually (end of academic year)
14	KPI-I-09	Proportion of teaching staff with verified doctoral qualifications	Number of faculty members with approved doctoral degrees/ Total number of teaching staff *100	Number of faculty members with approved doctoral degrees / Total number of teaching staff *	Annually (end of academic year)
15	KPI-I-10	Proportion of teaching staff leaving the institution	Percentage of faculty who leave the institution annually for reasons Reaching the retirement age changed the total number of teaching staff.	Number of faculty who leave the institution annually for reasons other than attainment Retirement / total number of teaching staff *100	Annually (end of academic year)



16	KPI-I-12	Satisfaction of beneficiaries with technical services	Average satisfaction of beneficiaries with technical services on a scale of five. Levels in an annual survey.	Questionnaires: Program evaluation questionnaire	Annually (end of academic year)
17	KPI-I-16	Number of a) Patents, b) Excellence Awards	a) Patents b) Excellence Awards Obtained annually by the organization's employees at the national/regional/level. States	number: a) Patents b) Excellence Awards Obtained annually by the organization's employees at the national/regional/level.	Annually (end of academic year)
18	KPI-I-18	Satisfaction of beneficiaries with the community services	Average rating of beneficiary satisfaction with the community services provided The organization is ranked on a five-level scale in an annual survey	Questionnaires: - Program evaluation questionnaire	Annually (end of academic year)
19	KPI-I-19	Percentage of a) Staff and b) Students participating in the community activities	Percentage of faculty/students who participated in activities Community service to the total faculty/students in Foundation.	a) Number of faculty members who participated in community service activities/ Total number of faculty members in the institution *100 b) Number of students who participated in community service activities/total number Students at the institution *100	Annually (end of academic year)

## B. Benefits of Using KPIs in the program

- Clarify the extent to which the Foundation has achieved its objectives (gap identification)
- Prioritization
- Promote effective communication
- Clarify the direction of performance
- Detecting areas of defect and problems
- Risk control
- Enhance the process of continuous improvement



- Help organizations to match their daily activities with strategic objectives and guide the organization
- Transforming the reporting process from a presentation of information into decision making reports.

### C. Performance Indicator Levels

Performance measurement is an integral function of the evaluation, quality assurance and control, whether at the individual, organizational unit or enterprise level. The overall performance of the foundation is the integrated outcome of the organization's work and its interaction with its internal and external environment. Each of the following levels Includes:

- The performance of individuals in their organizational units.
- Performance of organizational units in the overall framework of the Organization.
- The performance of the entire institution within its internal and external environment.

### D. Challenges in Measuring Performance

- Choose the correct key performance indicators
- Document key performance indicators clearly and accurately
- Data collection on key performance indicators
- Analyze the root causes of underperformance and recommendations
- Decision-making based on the results of key performance indicators

### E. Types of Special Indicators for Educational Institutions

Educational institutions need two types of performance indicators:

#### 1. Quantitative Indicators:

Usually consist of statistics or numerical facts in the form of a number, percentage or budget and include:

- Human dimension indicators: Statistics on faculty members and degrees, number of students enrolled in the institution or program, number of students accepted, number of graduates, and number of employees in the institution
- Indicators after information: such as the ratio of faculty to boy / girls (student), the percentage of completion for students, the retention rate for students and the employment ratio of graduates within six months after graduation

#### 2. Qualitative Indicators (How):

Usually, subjective indicators such as surveys and impressions through interviews, questionnaires and survey research include:



#### Special qualitative indicators students (boys/ girls)

Among them are the student satisfaction rate for academic counseling and registration services, the identification of student experience and program evaluation, the rate of student satisfaction with the infrastructure and services provided to the educational.

#### Specific qualitative indicators for faculty members

Among them are the satisfaction rate of faculty members about the sources of learning, the rate of satisfaction of faculty members about the support of the institution and the facilities offered to encourage them to make research, the rate of satisfaction of faculty members about the infrastructure of the educational institution, the services provided to them, the rate of satisfaction of faculty members about the vision, message foundation and Program.

#### Special Qualitative Indicators for Society

Among them is the rate of satisfaction of the recruiters about the skills of the alumni/graduates of a program, and the rate of community satisfaction about the services provided by the educational institution to serve the community.

After the identification of the indicators needed by the institution, both measure its progress

in its strategic plan or to measure its progress in achieving the required quality standards, and after the adoption of these indicators from the relevant bodies in the organization, the quality assurance providers will develop a precise description of the indicator to help the responsible authorities, to accurately measure the indicator and utmost benefit from this information. The procedures for making the indicator include three actions:

**Indicator definition:** It includes defining a precise description of the indicator, and how to calculate the index (arithmetic equation).

**Indicator-specific information:** it includes determining the indicator period (annual monthly-quarterly), identifying sub-indicators if they exist and specifying the target (number, percentage, budget or qualitative scale).

**Persons responsible for the indicator:** identify who can obtain information from it, determine who is responsible for calculating the indicator, and determine who is responsible for achieving the indicator.

### 13. Methods of Collecting Data and Evidence

Judging the extent to which a test is applied requires that the necessary data and proofs, be collected through internal interviewers. This is done by examining documents, observation, personal interviews, individual and group discussions.



## A. Examination of Documents

The program must have archived files containing the necessary documents necessary to meet the quality and academic accreditation practices that help the program and the college to plan, evaluate and improve. The bibliography examines the content of those documents relevant to the standards, performance indicators, elements subject to, from the evaluation (evidence and internal controls, transcripts of the scientific and college boards, related decisions, documented procedures, opinion polls, various reports). These programs are reviewed by an internal review team as follows:

### □ List of Documents at the faculty level to be examined

- The decision to establish the faculty
- Faculty guidance councils
- Vision, mission and objectives of the faculty
- Executive plan of the faculty
- Database on the activities of the faculty
- Faculty induction Guides
- Academic introductory Guide
- Faculty quality improvement plan.
- Faculty annual report.
- Security and safety system.
- Library learning resource lists.
- Hall and labs list (availability-readiness)
- A list of the technological media available in the faculty.
- A list of the faculty's performance indicators and data.

### □ Programs-level Documentations to be examined by Reviewers

- Decision to establish the program vision, mission, and the objectives of the program.
- Program guidance boards
- Program implementation plan
- Database on the program
- Program induction guides, student Guide, academic guidance manual
- Description of the program according to the model of the national center for evaluation and accreditation and the description, is approved
- Course descriptions and field experience are supported
- Learning outcomes in the program
- Existence of an active plan to improve the quality of the last year according to the weak points
- Program annual reports and course reports for the last two years (according to the center models)
- Survey data for students and graduates (two consecutive years)



- Reports of the program supervising committee (for professional programs) or the Advisory committee-report on its recommendations
- Program performance indicators and benchmarking-indicators of performance for two consecutive years
- Indicators to measure learning outcomes, according to the plan developed for the program
- Program Quality Improvement plan for the current year
- Program/Library Learning Resource lists
- Program halls and labs lists (availability of readiness)
- Appreciation of the applicability of the standards of education and learning standard in the program according to the criteria developed
- Samples of student surveys applied
- The course file is attached to the curriculum vitae of the professor.
- Teaching Staff Calendar files
- List/record of the available technology in the software
- Consistence with the requirements of the National Qualifications Framework • Program Quality System
- A sample of student work with the coordinator of the academic program within the course file
- Alumni Statistics
- Decisions on the formation of quality committees and minutes of meetings
- File documenting the scientific research activities of the program.
- Documentation file for community service activities in the program.
- Self-assessment, self-study and independent evaluation report in case of request for self-study or progress on programmatic accreditation.

## B. Methods of Observation

Observation is generally used to obtain data for sub-items. For evaluation, which cannot be obtained using other methods such as interviews. Discussions, opinion polls and documentary examinations. Pre-identification of the characteristics to be observed prior to the observation process and comprehensive coverage of those characteristics must be carried out.

When observing lectures and scientific exercises, the following procedures should be followed:

- Agreement with the coordinator to provide the study schedules in the academic accreditation chamber. Reviewers should select a random sample of courses provided they represent the various academic programs.
- Before making observation, the reviewer should read any information on the program and course descriptions
- The coordinator will prepare to start the observation with the lecturer
- The notice does not take longer than 20 minutes



- References do not interfere with the conduct of the educational process during the lecture, and should not use the forms or record any observations inside the hall
- Notes the suitability of the hall in terms of space, ventilation and equipment assigned to the performance of the educational process, as well as consistency of what is taught with the course description, as well as teaching strategies used and interaction with students
- After the observation is completed, the reviewer writes a report outlining the overall assessment of the observation process that has been implemented, especially the positive and negative aspects.
- The reviewer will use the selected form from the deanship and ensure that all the items it contains are covered.

### C. Interviews and Individual and Group Discussions

Interviews and discussions are generally used to obtain data on evaluation indicators and elements that are difficult to gather in other ways, which need to be informed, evaluated by the opinions and trends of the various stakeholders in the institution (Faculty / Students / Administrators / graduates). Interviews and discussions are divided into two types: individual and collective.

- Individual Interviews:** This type of interview is performed as needed with only one individual (e.g. Vice dean for development and quality/Head of department/Head of Quality Committee...).
- Group Interviews:** This type of interview is conducted with a range of individuals subject to the following conditions:
  - Attention to the opening at the beginning of the interview, leading to the provision of psychological comfort
  - To gain the cooperation of members of the group.
  - Encourage individuals participating in the group to provide information frankly and accurately
  - Group size varies between 8-10 people
  - Test the representative sample of the group members in a random manner so as to avoid incorrect data.
  - Bias resulting from the testing of specific individuals.
  - The duration of one interview should not exceed 30 minutes.
  - The group does not include any official from the academic or administrative leadership
  - Direct or indirect relationship to the subject of the interview so that freedom can be provided
  - Full members of the group to express their opinions or attitudes
  - Reference in the reference report to the number and quality of interviews managed during the calendar period



## 14. Mechanism of Design, Review and Update of Program Mission and Goals

The mathematics department has established a specific mechanism for reviewing its mission and objectives through a periodic system, as follows:

- ❑ The program's mission and objectives are reviewed every five years to ensure alignment with the ongoing changes in the labor market.
- ❑ Surveying labour market requirements from stakeholders relevant to the program's graduates.
- ❑ The department organizes discussion forums and workshops attended by faculty members, teaching assistants, college administration representatives, labor market stakeholders, and program alumni. These events aim to assess any changes that warrant reviews and, when necessary, update the program's mission and objectives.
- ❑ Formulating the mission based on the discussions and reviewing it through the department's quality committee.
- ❑ The mission is presented in the form of a survey or questionnaire at the college level, targeting faculty members, teaching assistants, students, alumni, and representatives from the labor market.
- ❑ After analyzing the survey results and discussing the proposed modifications, the final wording is agreed upon.
- ❑ The program's mission is reviewed and approved by the department council, then presented to the college council for approval, and subsequently ratified by the university council.
- ❑ Finally, the mission is announced on the websites of the department, college, and university, as well as displayed in prominent locations within the department and college.

## 15. Roles and Responsibilities of Various Entities in Ensuring Program Quality and Academic Accreditation

There are several standing committees within the program that perform various functions. These committees include:

### A. Schedules and Exams Committee

Its tasks are as follows:

- ❑ Preparing class schedules and examination timetables for each academic semester in coordination with the relevant departments.
- ❑ Distributing courses in a manner that ensures transparency and fairness among faculty members.
- ❑ Announcing class schedules and examination timetables to receive and address feedback.



- Following up on any amendments to class schedules and exam timetables and finding appropriate solutions.
- Allocating classrooms and exam halls according to the number of students and the nature of the courses.
- Preparing lists of exam invigilators and assigning them to committees to ensure proper conduct of examinations.
- Monitoring the progress of examinations on site and addressing any urgent issues.
- Documenting all procedures related to class schedules and examination timetables.

## B. Alumni Affairs Committee

Its tasks are as follows:

- Creating a comprehensive and updated database of graduates and their fields of employment.
- Maintaining continuous communication with alumni and employers through various means (website – email – meetings).
- Organizing activities and meetings with alumni to support them and gather their feedback.
- Preparing career guidance programs and workshops to develop graduates' skills in line with labor market needs, in coordination with the deanship of admission and registration.
- Documenting all procedures and collecting data related to alumni.

## C. Academic Advisory Committee

Its tasks are as follows:

- Conducting orientation sessions for newly admitted students.
- Publishing academic advising guides and awareness materials.
- Educating students about academic regulations, rules, rights, and university responsibilities.
- Monitoring the performance of academic advisors and ensuring they fulfil their duties toward students.
- Identifying outstanding students, academically struggling students, and students with disabilities, and providing appropriate support in coordination with relevant entities.
- Organizing programs and workshops to enhance self-confidence and develop time-management skills.
- Documenting all procedures and data related to academic advising and guidance.

## D. Curricula and Study Plans Committee

Its tasks are as follows:

- Preparing study plan guides and course specifications.
- Proposing new academic programs that meet community and labor market needs.
- Reviewing and updating study plans regularly according to labor market requirements.



- Following up on improvement plans included in course reports.
- Reviewing course specifications and learning outcomes to ensure alignment with quality standards and accreditation requirements issued by the Education and Training Evaluation Commission.
- Documenting all procedures and data related to curricula and study plans.

## **E. Community Service and Partnership Committee**

Its tasks are as follows:

- Developing a timeline for activities and programs that can be offered to the community.
- Strengthening partnerships between the department and governmental, private, and charitable sectors through cooperative training.
- Proposing community initiatives that contribute to addressing community issues and promoting development.
- Organizing events and activities that serve the community in collaboration with relevant entities.
- Evaluating the participation of students and faculty in community service programs and measuring the satisfaction of beneficiary organizations.
- Highlighting the department's role in national and international occasions (Foundation Day – National Day – Flag Day – International Days).
- Documenting all procedures and data related to community partnership and service.

## **F. Graduate Studies and Scientific Research Committee**

Its tasks are as follows:

- Conducting orientation sessions for postgraduate students regarding regulations and policies.
- Organizing regular courses and workshops to develop research skills.
- Introducing new postgraduate programs that meet community and labor market needs.
- Monitoring the implementation of postgraduate programs and ensuring their alignment with development and quality requirements.
- Reviewing research proposals and theses plans and recommending supervisors.
- Following up on the affairs of sponsored/externally funded students in coordination with the Faculty Vice-Deanship for Graduate Studies, Research, Innovation, and Quality.
- Monitoring the progress of postgraduate students and addressing challenges they face.
- Developing a departmental research plan aligned with university priorities and national directions.
- Proposing mechanisms to encourage research, creativity, and innovation.
- Tracking and updating the department's research output and citation rates regularly.
- Reviewing applications for academic appointments, promotions, and excellence awards for faculty members.
- Documenting all procedures and data related to graduate studies and scientific research.



## G. Development and Quality Committee

Its tasks are as follows:

- Promoting quality and academic accreditation culture by organizing meetings and workshops in relevant fields.
- Following up on the timeline for development, quality, and program accreditation processes issued by the Deanship of Development and Quality.
- Supervising the update and revision of course and program specifications and reports.
- Developing operational plans for academic programs, monitoring their indicators, and setting improvement plans.
- Collecting and analyzing program performance indicators regularly.
- Communicating with departmental committees to gather necessary data for the annual report.
- Following up on updates to academic and administrative policies and procedures in accordance with quality standards.
- Documenting all procedures and data related to quality and accreditation activities.

## H. Academic Advising Committee

Its tasks are as follows:

- Scheduling academic advising hours for each faculty member according to their teaching schedule, with these hours officially recorded in the faculty timetable in coordination with the Scheduling Committee.
- Receiving students during the designated office hours of each faculty member and providing necessary academic advising services.
- Offering general advice and guidance to students to support their studies, examinations, success, and academic excellence.

# 16. Roles of Program Personnel in Quality Assurance and Academic Accreditation

## A. The Role and Duties of the Head of the Academic Department in Quality Assurance and Academic Accreditation

- Follow up on the quality work, accreditation in the department, monitor the problems and difficulties encountered and coordinate with the College's development and quality agency
- Approval of course descriptions and programs from the department council
- Follow up the teaching and learning processes, ensure the effectiveness of teaching and evaluation strategies
- Ensure that the teaching methods approved in the section conform to the goals and objectives of the academic program



- Follow-up evaluation of learning outcomes in courses and oversee the evaluation of the learning outcomes of the program
- Contribute and oversee the measurement of performance indicators for the department/academic program
- Provide the necessary technical support for the development and quality of the department
- Actively participate in all the functions of the program's quality committee
- Follow up the work of the subcommittees related to development, quality and accreditation
- To contribute to the evaluation of the quality of the testing process in the department in its various components in accordance with the university's quality controls and regulations
- Participate in the evaluation of the quality monitoring of test scores in the department in accordance with the quality
- Regulations and rules of the university
- Contribute to the dissemination of quality culture and the requirements of academic institutional and programmatic accreditation in coordination with the faculty development agency
- Represent the department in the meetings of the development Agency in the college and follow up its recommendations and mandates and work to implement them
- Prepare an annual report on the work of quality and academic accreditation and submit it to the vice dean for development, after presenting it to the department council
- Coordinating the training of faculty members in the application of quality and accreditation procedures within the department
- Verifying the availability, indexing and archiving of documents, forms, decisions and minutes of quality meetings in the department
- Supervising and organizing meetings related to the program's quality committee within the department
- Follow up on the guidelines, directives, recommendations and mandates issued by the deanship of university development and work to implement them
- Follow-up on the implementation of the distribution of vocabulary courses to students in academic programs at the department level
- Follow-up of various surveys (evaluation of the course, evaluation of the student's experience, program evaluation, graduate evaluation, recruitment evaluation) and other resolutions related to institutional or programmatic accreditation
- Follow up on the completion of all files, documents, statistics and quality models from the descriptions and reports of the courses and reports of the program etc.
- To contribute to the closure of the quality department at the level of the courses and program by presenting the program improvement plan to the council the department
- Review and check of the program's self-study report.



## B. Functions of the Program Coordinator in Quality Assurance and Academic Accreditation

- He is a distinguished faculty member of the program who has appropriate qualifications in the field of quality and the requirements of academic accreditation.
- Review of course descriptions and periodic reports.
- Reviewing program descriptions and contributing to proposing amendments.
- Direct supervision of the coordinators of the decisions and follow-up to the handover of the decisions.
- Actively participate in the functions of the Quality Committee of the program.
- Preparation of the periodic semester report and the annual report of the program according to the model of the national center for evaluation and academic accreditation.
- Submit the report to the college's development and quality agency.
- Follow-up to the periodic (quarterly or annual) review of the program and decisions.

## C. Role of Faculty Members

- Commitment to professional ethics and maintaining integrity, fairness, equality and transparency
- Contribute to the planning of the decision, the program by adhering to the instructions of the management and quality committee of the program to ensure the quality of performance and achieve the mission and objectives of the program.
- Contribute to the dissemination of the culture, practices of quality and academic accreditation in the college.
- Contribute to the implementation of the operational plans that contribute to the achievement of the mission of the university and its strategic objectives
- Contribute to the description of courses, programs, reports of courses, annual programs, quality models and other academic accreditation
- To familiarize students with the general framework of the decision, its objectives, its teaching and evaluation system
- Directing students to the sources of learning, knowledge, training them in their use and criticism and developing their abilities for self-learning.
- Apply the teaching and evaluation methods included in the course description and the program with high quality
- Manage the classroom efficiently, effectively and take into account the individual differences between students
- Provide effective academic and psychological guidance to ensure that they are provided by experts to build personality and discover and nurture talent
- To contribute to familiarizing students with their rights and duties-
- Participation in workshops and professional development programs within the college and at the university
- Develop the learning outcomes in the course as a key objective of achieving and accomplishing the learning outcomes of the program



- Develop the characteristics of graduates in the program, ensure the appropriate level of skills and knowledge
- Use active and collaborative learning methods to ensure an appropriate level of different levels of thinking for students
- Encourage and motivate students to learn, participate and engage in constructive dialogue in classroom and extracurricular activities that help to develop and enhance the characteristics of graduates
- To contribute to the activities of testing, evaluation, to exercise accuracy, fairness, clarity of the evaluation and its proportionality with the objectives of the course and the level of students
- Contribute to the participation of students in the evaluation of the course and program as well as student services
- Writing the report of the course according to the specific form of the national center for academic accreditation and evaluation
- Include the results of feedback from students in the proposals for improvement and development of the decision
- Conduct qualitative research in the field of specialization on a regular basis
- Active and effective participation in councils, committees and meetings, especially in relation to quality and academic accreditation
- Contribute to the community participation related to specialization and contribute to the process of developing the college programs
- To contribute to the involvement of employers and graduates of the program in the processes of evaluation and improvement
- Contribute to the analysis of the results of the measurement and evaluation of the decisions and the program
- To contribute with the program's quality committee in writing the plan for the improvement,
- Development of the program and to implement the appropriate recommendations.
- Measure learning outcomes at the decision level and contribute to measuring learning outcomes at the program level.
- Contribute to the closure of the quality department in the decision and program by implementing the recommendations identified in the improvement plans.

#### **D. Role and Duties of the Coordinator of the Course in Quality Assurance and Academic Accreditation**

- Provide faculty members with a description of the standard and approved curriculum.
- Assist Professor/professor of course by clarifying the elements, requirements and responsibilities of the course.
- Ensure that the course of the course is regularly and uniformly established throughout the semester and during the single semester of the various divisions.



- Recommending the assignment of the necessary books and providing them to students before starting teaching.
- Follow the course of teaching the course in terms of the date of the lectures, their location, nature and the commitment to the specific schedule of topics of the course and the dates of exams and exercises.
- Supervising the process of testing of the rapporteur concerned.
- Communicating with the student's academic advisor when he is poorly performing and failing in his duties required by the course.
- Update the description of the course and make some amendments to it in consultation with the professors involved in the teaching of the course, and recommend to the Study Plan Committee in all relation to the decision
- Supervise and update all related to the course on the website of the program
- Supervising the announcement by the rapporteur of the list of names of students who were absent from the lectures and deprived of the material
- Announcing a list of school names for the rapporteur and ways of communicating with them
- Preparing the consolidated decision file between the two parts of the students: boys/ girls and documenting the following issues in the file for the course:
  - Curricula vitae of faculty members.
  - Description of the course according to the model of the national center for evaluation and academic accreditation (contains the teaching plan-learning resources-methods of student assessment).
  - Lab Manual In case the decision is considered/practical.
  - Learning Resources (memos-presentations available-YouTube scientific films on CD).
  - Midterm test (in addition to the answer form)- Final Test (plus answer form).
  - Examples of student duties and actions.
  - The report of the course, according to the model of the national commission for the evaluation and academic accreditation of the different chapters included the closure of the cycle of quality, feedback, the improvements and development and difficulties encountered by the professor.
  - Measurement of the learning outcomes of the decision.
  - Verifying the levels of achievement of students and plans for periodic review of the effectiveness of the course and planning for improvement (which is in the description and report of course, with the using a random sample or the formation of examination committees).
  - A ladder to evaluate students ' work (rubric).

## E. Student Role in Quality Assurance and Academic Accreditation

- Compliance with the rights and duties of the student and the related student code of conduct



- Comply with the regulations and regulations concerning the conduct of the study and the tests and other related to the students
- The obligation to attend theoretical and scientific lectures and to participate actively in the classroom activities
- Appropriate preparation of lessons and inquiry from the professor of material to understand the scientific material in the appropriate form
- Use the appropriate learning resources identified in the course descriptions and field experience
- Adhere to the instructions of the academic advisor in the registration, deletion, addition and psychological and professional counseling processes
- Attending academic and professional counseling sessions and active participation in planning for academic and professional success
- Active participation in classroom halls and interactive panels
- Contribute to the evaluation of the courses and the program as well as the evaluation of classroom activities and student services through the questionnaires of opinion polls and related panels

#### F. Employee Role in Quality Assurance and Academic Accreditation

- Adhering to the ethics of the public service and maintaining integrity, fairness, equality and transparency
- The obligation to attend and complete the administrative work in the official working hours and not to leave the premises without any excuse or prior permission
- Allocate official working times to perform the functions and duties of the job efficiently and effectively
- Supporting academic efforts by providing appropriate models and facilitating procedures.
- Contributes to the creation and maintenance of the working environment.
  
- Employing information technology to achieve high quality administrative work.
- Contribute to the evaluation of administrative services at the enterprise level and contribute to the development of improvement and development plans at the college or management level.
- Extra-curricular activities support for college students.
- Answering the questions of students and faculty members with accuracy and objectivity.
- Work to develop self-performance according to quality standards.
- Maintaining the facilities and equipment related to the college or management and providing necessary and periodic maintenance.





## 17. References

- 1) Guide to the quality policy and quality system at Al-Baha university.
- 2) Guide to quality assurance and academic accreditation in the Kingdom of Saudi Arabia.
- 3) Program accreditation eligibility requirements, education and training evaluation commission (National Center for Academic Accreditation and Evaluation).
- 4) Program accreditation standards (National Center for Academic Accreditation and Evaluation).
- 5) Key performance indicators for academic programs (National Center for Academic Accreditation and Evaluation).
- 6) Guide to Key Performance Indicators and Benchmarking at Al-Baha University.
- 7) Program accreditation eligibility requirements (National Center for Academic Accreditation and Evaluation).

