FAHAD BIN SULTAN UNIVERSITY

جامعة فهد بن سلطان

QUALITY MANUAL

College of Engineering

COMMITMENT TO EXCELLENCE AND INNOVATION

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FOREWORD

The College of Engineering (CoE) at Fahad Bin Sultan University (FBSU) is steadfast in its commitment to academic excellence, innovation, and continuous improvement in engineering education and research. This Quality Assurance Manual serves as a foundational document, guiding all CoE stakeholders—faculty, staff, students, and external partners—in upholding the highest standards of quality across all operations.

This manual underscores the College's dedication to fostering a robust quality culture, which is integral to the University's overarching Quality Assurance System (QAS). The University's commitment to quality, reinforced by the direct involvement of its leadership, is systematically extended to the college level. This cascading leadership commitment ensures that the broad quality aspirations of FBSU are translated into actionable, localized dedication within the CoE. Such a structured approach cultivates a sense of ownership and responsibility among CoE faculty and staff, which is paramount for the effective implementation and sustained success of quality assurance processes. The CoE QAS aligns rigorously with national and international accreditation standards, including those set by the National Quality Framework (NQF), ETEC-NCAAA, and professional engineering bodies such as ABET. The College welcomes feedback from all stakeholders, recognizing it as a vital component of its journey towards continuous enhancement.

Sincerely,

Prof. Khaldoon Bani Hani, Dean, College of Engineering

INTRODUCTION TO THE COLLEGE OF ENGINEERING QUALITY ASSURANCE MANUAL

This Quality Assurance Manual for the College of Engineering is a comprehensive and streamlined adaptation of Fahad Bin Sultan University's Quality Assurance Manual, meticulously tailored to the unique context and operational specificities of engineering education. It ensures that all relevant content particular to the College of Engineering is included and enhanced where necessary, providing a cohesive and polished guide for quality assurance within the CoE.

The College of Engineering is deeply committed to developing a comprehensive system of academic quality management. This commitment aims to ensure high levels of performance and to continually elevate the quality and effectiveness of its educational programs and support services. The CoE's Quality Management System (QMS) is firmly rooted in the ETEC-NCAAA standards at both institutional and program levels, and it is concurrently aligned with international higher education standards, with particular emphasis on criteria relevant to engineering accreditation, such as those stipulated by ABET. This approach represents a strategic adaptation for specialization, where university-wide principles and policies are distilled and then elaborated upon to suit the specific demands of engineering education. This ensures that the manual is not merely a reduced version but a strategically adapted document that maintains full compliance while providing operational clarity for the CoE.

The CoE's QAS encompasses strategic planning, curriculum planning and implementation, data collection, evaluation, continuous improvement, and both internal and external review processes. This holistic view of quality management mirrors the University's comprehensive system. This manual is structured into several main sections, providing a clear overview of the CoE's QMS framework, the interrelation of its academic and administrative processes, and the operational arrangements that underpin its quality assurance standards.

SECTION I
COLLEGE OF ENGINEERING CONTEXT AND COMMITMENT TO QUALITY

About FBSU and CoE

Fahad Bin Sultan University (FBSU) is a private university in the city of Tabuk that was inaugurated by Prince Sultan Bin Abdul-Aziz in the year 2004 (1424 H). FBSU was established to meet the rapid increase in the Saudi population, the rising demand for higher education, and the enormous pressure on public institutions to educate the growing numbers of young men and women.

FBSU was established in the year 1424 H in the city of Tabuk with one college – the College of Computing. At the beginning of the academic year 1427 – 28 H a branch for girls was added and was followed by the addition of the two colleges of Engineering and Business and Management in 1428 – 29 H. The University is governed by a Board of Trustees chaired by His Royal Highness Prince Fahad Bin Sultan Bin Abdul Aziz. It consists of five colleges offering eight undergraduate programs that grant the bachelor's degree in eleven majors and six graduate programs offering the master's degree in more than fifteen tracks (specializations). Today, FBSU consists of five colleges offering fourteen undergraduate programs that grant the Bachelor's degree and seven graduate programs that grant the Master's degree.

The University is governed by a Board of Trustees chaired by His Royal Highness Prince Fahad Bin Sultan Bin Abdul Aziz.

1.1 College of Engineering (CoE) – Overview

The College of Engineering at Fahad Bin Sultan University (FBSU) plays important role of academic excellence, hosting a substantial majority of the undergraduate student body. Our commitment to nurturing the next generation of engineers is reflected in our comprehensive undergraduate program, offering degrees in Civil, Electrical, Renewable Energy, and Mechanical Engineering. This program caters to both regular secondary school students and diploma holders, providing a pathway for those eager to attain expertise in these vital engineering disciplines.

On the graduate level, the College of Engineering further elevates academic pursuits with the Master of Engineering program. Specializations in Civil Engineering span construction,

transportation, project management, and environmental engineering. Meanwhile, the Electrical Engineering program offers expertise in communication, renewable energy, and power engineering, with options for both thesis and non-thesis tracks.

Aligned with the forward-thinking vision of the Kingdom for 2030, the College of Engineering is poised for strategic development. Our plan involves the introduction of new departmental programs, such as Mechatronics Engineering, showcasing our commitment to staying at the forefront of technological advancements.

1.2 Program Offerings in CoE

The College offers a diverse range of undergraduate and postgraduate programs:

Undergraduate:

- Bachelor in Civil Engineering (BCE)

- Bachelor in Electrical Engineering (BEE)

- Bachelor in Renewable Energy Engineering (BREE)

- Bachelor in Mechanical Engineering (BME)

Postgraduate:

- Master of Civil Engineering (MCE)

- Master of Electrical Engineering (MEE)

1.3 Vision, Mission, & Values

1.3.1 CoE VISION

To be a beacon of engineering excellence in the Kingdom of Saudi Arabia and beyond, shaping a future driven by innovation, research, and societal impact.

1.3.2 CoE MISSION

To ignite the passion for engineering excellence, equipping our students with the knowledge, skills, and values to become transformative leaders who solve global challenges, drive innovation, long life learning and community engagement, and build a sustainable future for the Kingdom of Saudi Arabia and the world.

1.3.3 CoE Core Values

1. Academic excellence
2. Integrity and Ethics
3. Creativity and Innovation
4. Community Engagement and Service
5. Sustainability and Environmental Stewardship

1.4 Strategic Plan – College of Engineering

To determine how effectively the strategic plan is progressing, the College of Engineering has deployed a rigorous performance evaluation framework. Specific Key Performance Indicators (KPIs) have been meticulously developed to observe advancements for every strategic aim. The College of Engineering's KPIs encompass, but are not restricted to:

1.4.1 Theme 1: Enhance Academic Excellence

- **Faculty Quality and Development:**
    o Faculty recruitment and retention rates
    o Faculty promotion and tenure rates
    o Faculty participation in professional development activities
    o Faculty research output and citations

- **Curriculum and Program Quality:**
    o Student satisfaction with programs
    o Program accreditation status
    o Graduate employment rates
    o Curriculum review and update frequency

- **Student Learning and Success:**
    o Student retention and graduation rates
    o Student satisfaction with teaching and learning
    o Student performance on assessments
    o Student participation in extracurricular activities

1.4.2 Theme 2: Promote Quality Culture and Governance

- **Institutional Accreditation:**
    o Progress towards and achievement of national and international accreditation
    o Implementation of quality assurance systems and processes

- **Governance and Operations:**
    o Effectiveness of governance structures and decision-making processes
    o Efficiency of administrative operations and processes
    o Adherence to ethical standards and compliance with regulations

- **Faculty and Staff Development:**
    o Participation in professional development programs
    o Improvement in teaching and research skills

1.4.3 Theme 3: Strengthen Community Engagement

- **Community Engagement:**
    - Number of community outreach programs and initiatives
    - Participation of faculty and students in community service
    - Impact of community engagement activities on the community
- **Stakeholder Partnerships:**
    - Number of partnerships established with engineering industry, government, and other organizations
    - Strength of partnerships as measured by joint projects and collaborations

1.4.4 Theme 4: Optimizing Resources and Facilities

- **Infrastructure and Facilities:**
    - Condition and adequacy of facilities
    - Utilization of technology to enhance teaching and learning
    - Energy efficiency and sustainability initiatives

- **Financial Performance:**
    - Revenue generation and expenditure control
    - Financial sustainability and long-term viability

1.4.5 Theme 5: Building a Robust Research Infrastructure

- **Research Productivity:**
    - Number of research publications
    - Citation Index
    - External research funding secured

- **Research Impact:**
  - Impact of research on industry and society
  - Contribution to knowledge and innovation
  - Collaboration with engineering industry and government partners

The College of Engineering continuously monitors and evaluates its Key Performance Indicators (KPIs) to identify areas of strength and weakness, enabling prompt corrective actions to ensure the strategic plan's successful execution. This comprehensive review is conducted annually; for the 2023-2028 strategic plan, the initial review of the 2023-2024 Operational Plan is complete, and the 2024-2025 Operational Plan is now in effect. The insights from the 2023-2024 review highlight specific strengths and weaknesses, informing crucial adjustments in resource allocation, curriculum development, research initiatives, and faculty support. This systematic approach ensures the strategic plan remains a dynamic roadmap, evolving with our progress and the changing landscape of engineering education and research.

1.5 Strategic Operational Objectives

1- Enhance Academic Excellence

1-1- Enhance the quality of faculty in strategically important academic areas

1-2- Improve curriculum and teaching and learning process

1-3- Improve teaching and learning process

2- Promote Quality Culture and Governance

2-1- Sustain CoE alignment to national and international quality standards of higher education.

2-2-Enhance quality culture and governance.

2-3- Provide a variety of professional development opportunities for faculty and staff

3- Strengthen Community Engagement

3-1- Develop and improve CoE's community service and education programs and initiatives

3-2-Enhance community engagement and outreach

4. Sustain High Quality Resources, Technology, and Facilities

4-1- Provide high quality college resources and facilities

4-2- Transform IT infrastructure and application services

4-3- Maintain and enhance overall financial strength

5- Improve Research & Innovation

5-1- Establish an effective research infrastructure

5-2- Play a larger role in the advancement of research and innovation

5-3- Contribute to the socioeconomic development of the Kingdom of Saudi Arabia through research and Innovation

1.6 Organizational Structure

To effectively pursue its vision and mission, the College of Engineering operates under the organizational framework depicted in Figure 1 designed to bolster its academic and administrative endeavors. This structure ensures comprehensive support for the college's operations.

Central to the implementation of this organizational structure are several key committees and units:

- **Academic and Curriculum Committee**
- **Outreach Committee**
- **Scientific Research Committee**
- **Graduate Committee**
- **Student Engagement and Counselling Committee**
- **Quality Assurance Committee**

Each role and responsibility outlined within this organizational chart is meticulously defined through detailed job descriptions, facilitating the efficient and effective management of the College.

The College is led by the Dean, who presides over its strategic direction and daily activities. The Dean is significantly supported by the Department Chairs of the Renewable Energy, Electrical, Mechanical, and Civil Engineering Departments, as well as the Quality Assurance Committee, all of whom collaboratively oversee the operations of the various academic and administrative units within the College.
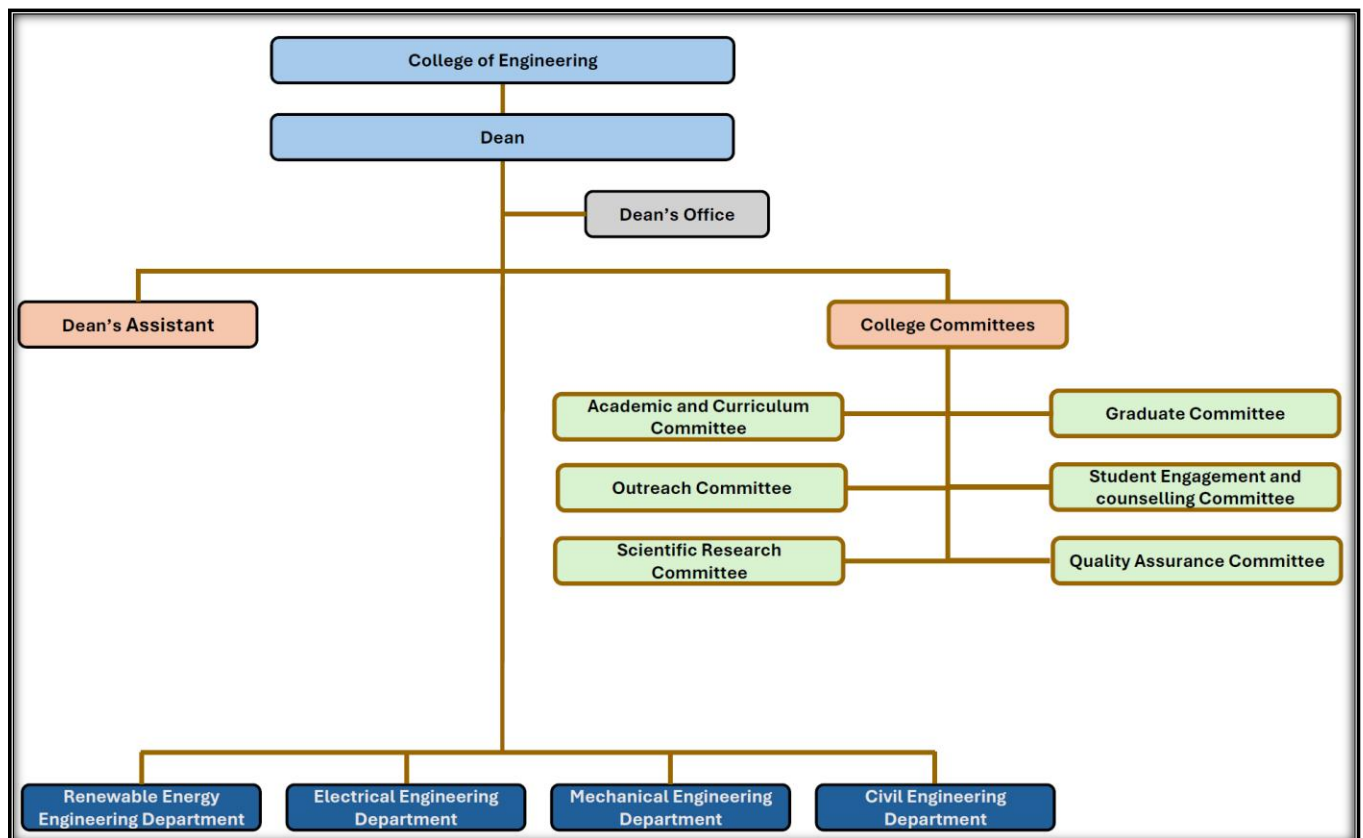
Figure 1 Organizational structure of CoE

1.7 Graduate Attributes

FBSU aims to instill a set of desired qualities and competencies in all its graduates. These include Deep Discipline knowledge and capability, Creative and Critical Thinking, Digital Capability, Communication Skills, Moral and ethical awareness, Self-directed learning and teamwork leadership, and Social responsibility.

For the College of Engineering, these university-wide graduate attributes are operationalized and tailored to the engineering context. For instance, "Deep Discipline knowledge and capability" for engineering graduates implies expertise in specific engineering fields such as civil, electrical, mechanical, or renewable energy. "Digital Capability" extends to proficiency in specialized engineering software, simulation tools, and programming languages relevant to engineering design and analysis. "Creative and Critical Thinking" directly translates to the ability to innovate, design solutions, and critically solve complex engineering problems. This detailed mapping ensures that the curriculum and assessment within the CoE are intentionally designed to cultivate these attributes within an engineering framework, thereby preparing graduates for specific engineering industry demands and professional accreditation requirements.

The University also outlines Institution Learning Outcomes (ILOs) categorized into Knowledge & Understanding, Skills, and Values. The CoE's Program Learning Outcomes (PLOs) and Course Learning Outcomes (CLOs) are meticulously mapped to these ILOs, ensuring a coherent and progressive development of competencies from the course level up to the institutional graduate profile.

1.8 Quality Assurance Management

The College of Engineering operates under a robust organizational framework designed to support its academic and administrative endeavors comprehensively. The College is led by the Dean, who provides strategic direction and oversees daily operations. The Dean is supported by the Department Chairs of the Renewable Energy, Electrical, Mechanical, and Civil Engineering Departments, as well as the College Quality Assurance Committee. These individuals collaboratively oversee the operations of various academic and administrative units within the College.[1]

Central to the implementation of this organizational structure are several key committees: the Academic and Curriculum Committee, Outreach Committee, Scientific Research Committee, Graduate Committee, Student Engagement and Counselling Committee, and the Quality Assurance Committee.[1] Each role and responsibility within this structure is meticulously defined through detailed job descriptions, facilitating the efficient and effective management of the College.[1]

The CoE's structure aligns with the broader university governance, which includes College Councils and Department Councils.[1] The University's institutional commitment to quality improvement is channeled through the Deanship of Quality and Academic Accreditation (DQAA) and various institutional committees.[1] The CoE committees function as the operational arms of the university's centralized quality assurance framework within the engineering context. For example, the CoE's Academic and Curriculum Committee implements the university's Curriculum Development and Review Policy [1] specifically for engineering programs. This structure allows for tailored quality assurance implementation at the college level while ensuring consistency and alignment with university-wide standards. It clarifies how quality is managed both centrally and locally.

The table below outlines the key CoE committees and their alignment with the broader quality assurance framework.

Table 1: CoE Committees and their Alignment with Quality Assurance

Committee Name	Mandate/Purpose (CoE-specific)	Key Responsibilities in QA (CoE-specific)	Alignment with University-level Committees/DQAA	Relevant NCAAA/ABET Standard (if applicable)
Academic and Curriculum Committee	Oversees development, review, and approval of CoE academic programs and curricula.	Ensures engineering programs meet NQF, NCAAA, and ABET standards; reviews course/program specifications; approves curriculum changes.	Collaborates with DQAA, Institutional Learning and Teaching Committee (ILTC), Institutional Quality Committee (IQC), Institutional Curriculum Committee (ICC).	NCAAA Standard (Teaching & Learning), ABET Criterion (Student Outcomes), Criterion (Curriculum)
Outreach Committee	Fosters relationships with industry, alumni, and the community for internships, projects, and employment.	Gathers external stakeholder feedback on program relevance and graduate attributes; facilitates industry partnerships for practical learning.	Collaborates with Consultative Center for Studies and Community Service (CCSCS), Deanship of Student Affairs (DAS).	NCAAA Standard (Community Partnership), ABET Criterion (Continuous Improvement)
Scientific Research Committee	Promotes and oversees research activities within the College, including faculty and student research.	Ensures research quality and ethical conduct; monitors research output KPIs; supports faculty in securing grants and publications.	Collaborates with Deanship of Graduate Studies and Research (DGSR), Research Ethics Committee.	NCAAA Standard (Research), ABET Criterion (Student Outcomes - research skills)
Graduate Committee	Manages and assures quality of postgraduate engineering programs.	Oversees graduate admissions, curriculum, thesis supervision, and assessment; monitors postgraduate KPIs.	Collaborates with Deanship of Graduate Studies and Research (DGSR).	NCAAA Standard (Teaching & Learning), ABET Criterion (Student Outcomes)
Student Engagement and Counselling Committee	Focuses on student welfare, academic advising, and extracurricular activities.	Monitors student satisfaction and retention KPIs; ensures effective academic advising; addresses student feedback and concerns.	Collaborates with Deanship of Student Affairs (DAS), Deanship of Admissions and Registration (DAR).	NCAAA Standard (Student Support Services)
Quality Assurance Committee (CoE QA Unit)	Leads and coordinates all quality assurance activities within the College.	Prepares and distributes the CoE Quality Manual; coordinates	Reports directly to the Dean of the College; collaborates closely with the Deanship of Quality	NCAAA Standard (Governance & Management), ABET Criterion

		internal program reviews; monitors quality procedures and data; prepares performance reports for the Dean.	and Academic Accreditation (DQAA).	(Program Educational Objectives), Criterion (Continuous Improvement)

Quality Assurance Management at the College of Engineering

Quality assurance is deeply embedded in the College of Engineering's operations, ensuring continuous improvement and adherence to national and international benchmarks. The system systematically monitors and evaluates all academic programs, research initiatives, and administrative services.

Roles and Responsibilities within Quality Assurance:

The CoE has clearly defined roles with specific quality assurance responsibilities:

Dean of the College: Serves as the chief academic officer, providing overall leadership in implementing quality assurance policies. Responsibilities include promoting a quality culture, overseeing academic advising and improvement plans, collaborating with the Deanship of Quality and Academic Accreditation (DQAA), ensuring the effective functioning of the College Quality Assurance Unit, approving quality-related strategic plans, supporting faculty development, and ensuring program quality.

Dean's Assistant for Quality (College QA Chair): Responsible for leading the quality assurance system within the College. Duties include ensuring compliance with national accreditation standards, supporting the DQAA, preparing and distributing the College Quality Manual, coordinating quality-related activities, monitoring quality procedures, supervising the operational plan, managing quality data, preparing performance reports, organizing QA committee meetings, and promoting quality awareness.

Quality Assurance Unit Members: These are faculty representatives, including the Quality Chair, Dean of the College, and Department Chairs of all Departments. Their responsibilities include supporting data collection, participating in QA committee meetings, assisting in self-

evaluation reports, helping execute improvement plans, and promoting quality assurance awareness.

Program Chair: Responsible for maintaining and enhancing the academic quality of their respective program. Responsibilities include ensuring alignment of learning outcomes, overseeing program quality assurance documentation, leading assessment processes, coordinating direct and indirect assessment activities, collaborating with the QA Chair, and ensuring faculty involvement in quality assurance.

This clear distribution of quality assurance responsibilities ensures that quality is not merely a central mandate but an embedded responsibility across all levels of the college. The central DQAA sets the overarching framework, while these CoE roles are responsible for its localized implementation and operational oversight. This ensures that quality assurance activities are systematically carried out, monitored, and reported from the program level up to the college and university levels.

Table 2 **CoE Quality Assurance Roles and Responsibilities**

Role	Primary Responsibilities (Key duties related to QA)	Reporting To	Key Collaborations
Dean of the College	Overall leadership in QA; promotes quality culture; oversees academic advising and improvement plans; approves strategic plans; ensures program quality.	University President	Deanship of Quality and Academic Accreditation (DQAA), College QA Chair, Department Chairs, University Council
Dean's Assistant for Quality (College QA	Leads College QA system; ensures	Dean of the College	DQAA, Quality Assurance Unit

Chair)	NCAAA compliance; prepares/distributes CoE QM; coordinates QA activities; monitors procedures; manages quality data; prepares reports.		Members, Program Chairs, College Committees
Quality Assurance Unit Members	Assist QA Chair; support data collection; participate in QA committee meetings; assist in self-evaluation reports; help execute improvement plans; promote QA awareness.	College QA Chair	Department Chairs, Faculty Members, College Committees
Program Chair	Maintains/enhances academic quality of program; ensures learning outcome alignment; oversees QA documentation; leads assessment processes; coordinates direct/indirect assessment activities; ensures faculty involvement.	Dean of the College (via Department Chair)	College QA Chair, Faculty Members, Department Committees, DQAA (indirectly)

Reporting Lines and Communication Mechanisms:

The communication and reporting structure within the College ensures that quality assurance activities are systematically reviewed, approved, and monitored. Reporting mechanisms are clearly defined to facilitate transparency, accountability, and alignment with institutional and accreditation requirements. An example of this systematic flow is illustrated by the Course Specification Change Approval Workflow. This structure ensures that the CoE's quality assurance processes are seamlessly integrated with the university's DQAA, which plays a central role in continuous quality improvement within NCAAA guidelines.

SECTION II
KPI FRAMEWORK IN COE

2. KEY PERFORMANCE INDICATOR FRAMEWORK

COE KPI Framework is in line with the National Center for Academic Accreditation and Evaluation (NCAAA).

COE has adopted 13 NCAAA Key Performance Indicators (KPIs) at Graduate level and 11 KPIs at Bachelors level, which are in line with the institutional accreditation standards. These indicators are annually measured to ensure the quality of the College.

2.1 KPI Framework Principles

To appreciate the extent to which academic programs' objectives are achieved and strategies are efficient, it is vital to define key performance indicators to tell stakeholders whether the academic program and the university are going in the right direction or not. The following principles should be taken into consideration:

1. **Relevance and Alignment** with Strategy: Each College KPI is aligned with Fahad Bin Sultan University's Strategic Plan, so that it is transparently relevant to institutional goals (explicit and implicit). Key to satisfying this criterion is the need to ensure that the KPI is measuring both strategic performance and operational goals.

2. **Clarity:** The KPI provides clarity and a detailed explanation. It clearly defines the outcome of each KPIs comparing positive or negative value as compared to previous year.

3. **Driver to impact real change:** In order to control the performance being measured and be able to impact real change, target benchmarking is set up and is accordingly compared.

4. **Data Availability:** All selected KPIs will be calculated based on the data availability. However, in the case of data unavailability for desired indicators, the indicator should be noted as an "aspirational indicator" and actions identified to source the required data in the future.

5. **Mixture of Quantity and Quality Indicators:** COE follows a holistic approach by measuring its performance annually, quantitatively, and qualitatively through the KPIs.

2.2 Program KPI Terminology

For KPI Analysis, the following areas need to be highlighted:

Benchmark/KPI refers to the key performance indicators of the program/institution approved by the institution (if applicable at this time). This includes both the NCAAA suggested KPIs chosen and all additional KPIs determined by the program (including 50% of the NCAAA suggested KPIs and all others).

Target Benchmark refers to the anticipated or desired outcome (goal or aim) for each KPI. The target KPIs will be set by the KPI owners with the discussion of the KRC Committee.

Actual Benchmark refers to the actual outcome determined when the KPI is measured or calculated.

Internal Benchmarks refer to comparable benchmarks (actual benchmarks) from inside the program (like data results from previous years or data results from other departments within the same college).

KPI Analysis refers to a comparison and contrast of the benchmarks to determine strengths and recommendations for improvement.

New Target Benchmark refers to the establishment of a new anticipated or desired outcome for the KPI that is based on the KPI analysis.

2.2.1 FBSU Data Related Policies:

COE follows all the policies framed by the university to align the College outcome along with the University's goal and vision policies. The overarching aim of the benchmarking and KPI policy is to contribute to the continuous improvement of the College performance. The university's policies with respect to the KPIs are as follows;

1. KPI Policy: Key Performance Indicators and benchmarking should be embedded in practice within all key areas of the University for continuous improvement and demonstrated within the formation of its standards of practice and comparators for performance. This policy mandates how the University will review and assure the achievement of performance through the comparison of external and internal benchmarking. Adherence to this policy contributes to efficient and effective evidence-based decision practices.

2. Benchmarking Policy: FBSU compares its academic and administrative processes to analogous universities, both local and international; to track to what extent FBSU is on course to achieve its vision. Fahad Bin Sultan University (FBSU) believes that KPI (Key Performance Indicators) and benchmarking should be embedded in practice within all key areas of the University for continuous improvement. Adherence to benchmarking policy ensures efficient and effective evidence-based decision practices which are inevitable for this outcome. The purpose of the benchmarking policy is to provide clear guidance on all activities, warranting that the benchmarking process at FBSU is advanced in a synchronized, cautious, and systematic manner.

3. Proactive Data Collection & Management Policy: FBSU shall adopt a proactive, systematic data collection and management process to make sure that required data is available in a timely manner and with the expected levels of accuracy and integrity.

4. Data Access Policy establishes clear guidelines for all staff members to follow in reference to data access and to maintain the privacy of the information of all the stakeholders involved.

2.3 Key Performance Indicators (KPIs)

The following table presents the KPIs of the COE for bachelor's and master's degrees.

Table 3: KPIs of COE Strategic Plan.

Bachelor Programs
KPI-P-01: Students' Evaluation of Quality of learning experience in the program.
KPI-P-02: Students' evaluation of the quality of the courses.
KPI-P-03: Completion rate.
KPI-P-04: First-year students' retention rate.
KPI-P-05: Students' performance in the professional and/or national examinations.
KPI-P-06: Graduates' employability and enrolment in postgraduate programs.
KPI-P-07: Employers' evaluation of the program graduates' proficiency.
KPI-P-08: Ratio of students to teaching staff.
KPI-P-09: Percentage of publications of faculty members.
KPI-P-10: Rate of published research per faculty member.
KPI-P-11: Citations rate in refereed journals per faculty member.
Master Programs
KPI-PG-01: Students' Evaluation of quality of learning experience in the program.
KPI-PG-02: Students' evaluation of the quality of the courses.
KPI-PG-03: Students' evaluation of the quality of academic supervision.
KPI-PG-04: Average time for students' graduation.
KPI-PG-05: Rate of students dropping out of the program.
KPI-PG-06: Employers' evaluation of the program graduates' competency.
KPI-PG-07: Students' satisfaction with services provided.
KPI-PG-08: Ratio of students to faculty members.
KPI-PG-09: Percentage of publications of faculty members.
KPI-PG-10: Rate of published research per faculty member.
KPI-PG-11: Citations rate in refereed journals per faculty member.
KPI-PG-12: Percentage of students' publication.
KPI-PG-13: Percentage of Students presented at conference

2.4 COE Surveys used for calculating each Program level KPIs

The following Figure 2 shows the type of the surveys used for calculating the following KPIs;

Students' evaluation of the quality of the programs

Satisfaction of beneficiaries with learning resources

Students' satisfaction with the offered services

Satisfaction of beneficiaries with technical services

Students' evaluation of the quality of the courses

Employers survey

Alumni survey
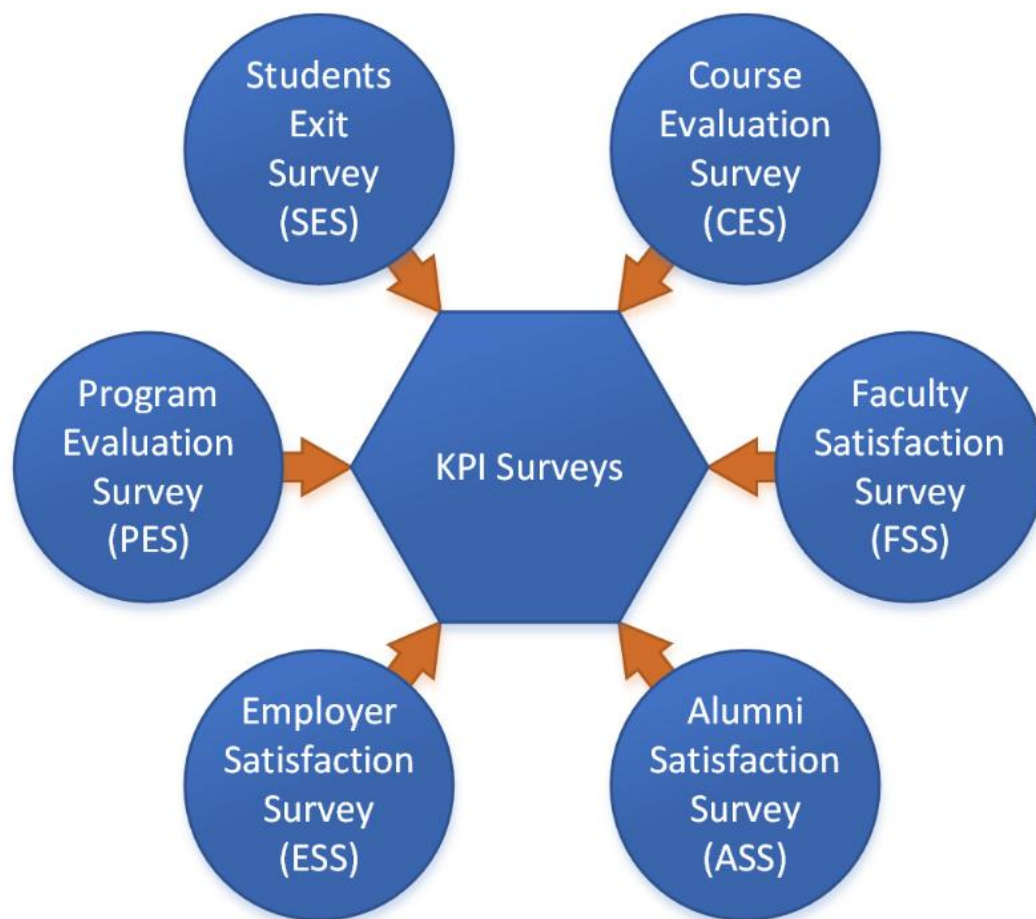
Figure 2: FBSU Surveys for calculating KPI results

SECTION III
STAKEHOLDERS ENGAGEMENT FORUM

3. Stakeholders Engagement Forum

3.1 Purpose

The stakeholder engagement forums complement the [stakeholders engagement policy](#) and aim to foster open, structured, and inclusive dialogue between the university and its key stakeholders including students, faculty, staff, alumni, employers, industry partners, and the broader community. The purpose is:

- Foster direct engagement with students, faculty, staff, alumni, employers, and community partners.

- Gather feedback on strategic initiatives, academic programs, research priorities, and community engagement.

- Ensure that the university's strategies, policies, and services remain aligned with stakeholder needs, expectations, and emerging trends.

- Strengthen accountability, transparency, and responsiveness across university operations.

Forums may be organized at the university-wide, college, and department levels as appropriate.

3.2 Scope

The stakeholder forums will cover broad strategic, academic, operational, and community engagement topics. The scope includes, but is not limited to:

- Strategic priorities and institutional development.

- Academic programs and quality assurance.

- Research and innovation initiatives.

- Student services and campus life.

- Community outreach and partnerships.

- Employer expectations and labor market trends.

3.3 Objectives

The stakeholder forums are established to:

Engage stakeholders in the university's decision-making and continuous improvement processes.

Gather diverse perspectives on key strategic and operational issues.

Identify needs, challenges, and opportunities from the viewpoint of various stakeholder groups.

Strengthen transparency and trust between the university and its stakeholders.

Enhance the relevance and impact of academic programs, research, and community initiatives based on external input.

Support evidence-based planning and policy development through systematic stakeholder feedback.

3.4 Surveys and Feedback

To ensure a comprehensive understanding of the demands and expectations of its stakeholders, the College of Engineering implements a structured and proactive approach through periodic internal and external surveys. These surveys serve as invaluable tools for collecting a diverse range of data, shedding light on the nuanced needs and preferences of various stakeholders.

The feedback of those surveys is then analyzed and an action plan is implemented to take into account the views, concerns, and ways of improvement. The Quality coordinator in the College bears the responsibility of following up on the quality of teaching and learning, compiling the program KPIs, and collecting the data and information needed for program improvement, identifying the areas for improvement, encouraging the staff team in participation of research activities, seminars, student development activities etc.,

3.5 Councils and Committees

COE is keen to have all stakeholders participate in the decision-making process. Therefore, it strictly follows the guidelines of FBSU for forming and operating councils and committees. COE has engaged students, and the business community in their councils. Through these meetings, the board facilitates a dynamic exchange of ideas, ensuring the College of Business remains attuned to industry expectations and advancements in knowledge. This collaborative effort is not just about dialogue but translates into actionable steps. The board's insights guide strategic improvements, enabling the college to adapt its programs to emerging industry needs. The commitment to these interactions underscores the board's dedication to fostering a curriculum that prepares students for success in a rapidly evolving professional landscape.

Beyond the pivotal role played by the College Advisory Board, the institution establishes various college- and university-level committees and councils such as curriculum committees, college councils, department councils, and accreditation committees. These committees serve as inclusive platforms designed to receive valuable suggestions and insights from diverse perspectives. By engaging faculty, which is one of the important stakeholder groups, through these committees, the college ensures a multi-faceted approach to gathering input and staying attuned to the evolving landscape of educational requirements.

The main stakeholders are as follows.

1. **Students:** CoE students who are completing their last semester before graduation. Since the students are the direct beneficiaries of a quality education system, their immediate feedback through student council, exit surveys, and interviews have high importance in FBSU's education system.

2. **Alumni:** Alumni are former students who graduated with an undergraduate or graduate degree. They are expected to become competent, professionally, and socially responsible individuals after earning a bachelor/master's degree in any academic program offered at CoE. Their successful career, reputation, or professional growth demonstrates the achievement of learning outcomes. Alumni input is obtained through an alumni survey as well as the annual Advisory Board meeting (members are from the industry as well as our alumni).

3. **Faculty:** Faculty are the academic teaching staff of the College including Professors of various ranks, lecturers, and/or researchers. Their primary educational responsibility is to create an environment for leading the students to an effective lifelong learning process. Faculty input is obtained through regular Department/College Council meetings, Curriculum Committee meetings, and course reports.

4. **Employers/industry partners (and postgraduate universities):** Employers are those who are expected to hire new employees (graduated from FBSU) who are competent, productive, self-motivated learners, team players, and have excellent communication skills.

5. **Professional and Accreditation Bodies:** The Professional and Accreditation Bodies also play an important role in specifying the learning outcomes and/or their assessment strategies.

6. **Higher Education Institutions (Graduate Studies Program):** The entry requirements for higher education institutions also provide a coherent source for keeping the learning outcomes up to date.

SECTION – IV
MANAGEMENT OF ACADEMIC DEPARTMENTS AT COE

4. Academic Department Management at CoE

The College of Engineering offers the following degrees:

Bachelor in Civil Engineering (BCE)

Bachelor in Electrical Engineering (BEE)

Bachelor in Renewable Energy Engineering (BREE)

Bachelor in Mechanical Engineering (BME)

Master of Civil Engineering (MCE)

Master of Electrical Engineering (MEE)

4.1 Sample - ELEE Department Objectives, Mission & PLOs in CoE

4.1.1 Electrical Engineering

A. Program Vision

"To be a globally recognized Electrical Engineering program that develops technically excellent, innovative, and ethical engineers who solve complex challenges through sustainable design, lifelong learning, and leadership in advancing technology for societal benefit."

B. Program Mission

"The Electrical Engineering program is committed to delivering high-quality education that develops competent, innovative, ethical engineers grounded in strong foundations of mathematics, science, and engineering principles. The program fosters research and innovation, promotes the design of sustainable, safe, and ethically responsible solutions with integrity, encourages effective communication, leadership, teamwork, and community engagement, and prepares graduates for lifelong learning and adaptation to emerging technologies to address global challenges."

C. Program Objectives (POs)

PO1. Apply Engineering Fundamentals: Equip students to solve electrical engineering problems using principles of mathematics, basic sciences, and engineering analysis, aligned with industry and societal needs.

PO2. Design Sustainable Solutions: Develop skills to design systems and processes that prioritize safety, sustainability, and ethical considerations in diverse socio-economic and environmental contexts.

PO3. Promote Professional Competence: Cultivate effective communication, teamwork, leadership, and ethical judgment to address global challenges and uphold professional responsibilities in engineering practice.

PO4. Advance Lifelong Learning: Prepare graduates to adapt to emerging technologies, conduct experiments, interpret data, and pursue continuous learning for research or professional growth.

D. *Program Learning Outcomes-POs Mapping*

Table 4 Program Learning Outcomes-POs Mapping

ABET SLOs	PIs	NCAAA PLOs	POs
1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	**1a)** Demonstrate the ability to identify and understand the principles of engineering, science, and mathematics.	**K1)** Gain knowledge of mathematics, science, and engineering.	PO1
	1b) Formulate complex engineering problems by applying the principles of engineering, science, and mathematics.	**K2)** Outline engineering problems solutions based on the principles of physical sciences and mathematics.	PO1
	1c) Apply engineering, science, and mathematics principles to develop solutions for complex engineering problems.	**S1)** Solve engineering problems by applying principles of mathematics, science, and engineering.	PO1
2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as	**2a)** Produce a clear needs statement for a design project, identify constraints, and establish criteria for acceptable and desirable solutions.	**S3)** Apply modern techniques and skills to produce solutions in global, economic, environmental, and societal contexts for engineering practice.	PO2
	2b) Evaluate and analyze the economic aspects of engineering solutions, and use		

ABET SLOs	PIs	NCAAA PLOs	POs
global, cultural, social, environmental, and economic factors.	appropriate techniques to assess and manage risks in product or process design.		
3) an ability to communicate effectively with a range of audiences.	**3)** Communicate effectively with diverse audiences, tailoring the message to the audience's level of understanding and context.	**S5)** Communicate effectively with a range of audiences.	**PO3**
4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	**4a)** Recognize and uphold ethical and professional responsibilities in engineering situations.	**V1)** Uphold ethical and professional responsibilities.	**PO3**
	4b) Identify alternative engineering solutions, considering economic, environmental, and societal impacts, and address design conflicts.	**K3)** Describe and categorize engineering related contemporary issues.	**PO2**
5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	**5a)** Identify and fulfill roles within a team to ensure success, integrate inputs from all team members, and make decisions based on objective criteria.	**V2)** Function and contribute effectively in a team.	**PO3**
	5b) Monitor team progress and provide constructive feedback to enhance team performance.		
6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	**6a)** Demonstrate good laboratory practices and instrumentation skills to measure specific quantities and collect required data.	**S2)** Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.	**PO4**
	6b) Use appropriate tools to analyze data, verify and validate experimental results, and account for experimental errors.		
7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	**7)** Show awareness of the importance of continuous learning and research after graduation, and independently find information relevant to problem-solving.	**S4)** Acquire life-long learning skills as needed, using appropriate learning strategies.	**PO4**

E.   POs-PIs-NCAAA PLOs Mapping

PO	PIs	NCAAA PLOs
PO1	1a), 1b), 1c)	K1), K2), S1)
PO2	[2a), 2b)], 4b)	S3), K3)
PO3	3), 4a), [5a), 5b)]	S5), V1), V2)
PO4	[6a), 6b)], 7)	S2), S4)

F.   POs-PIs-NCAAA PLOs Mapped Weights

ABET SLOs	ABET-SLO1			ABET-SLO2		ABET-SLO3	ABET-SLO4		ABET-SLO5		ABET-SLO6		ABET-SLO7
PIs	PI 1-b	PI 1-b	PI 1-c	PI 2-a	PI 2-b	PI 3	PI 4-a	PI 4-b	PI 5-a	PI 5-b	PI 6-a	PI 6-b	PI 7
NCAAA PLOs	K1	K2	S1	S3		S5	V1	K3	V2		S2		S4
PO1	30	35	35										
PO2				40	35			25					
PO3						30	25		25	20			
PO4											35	35	30

4.2 Program Development, Approval and Review Process

The process of developing a program at CoE follows the policy of new program design offered by FBSU, which can be navigated through the following link:

https://fbsu.edu.sa/Bylaws/AA-424-New-Program-Design-Policy.pdf.

Figure 3 illustrates the process of developing a new program at COE.
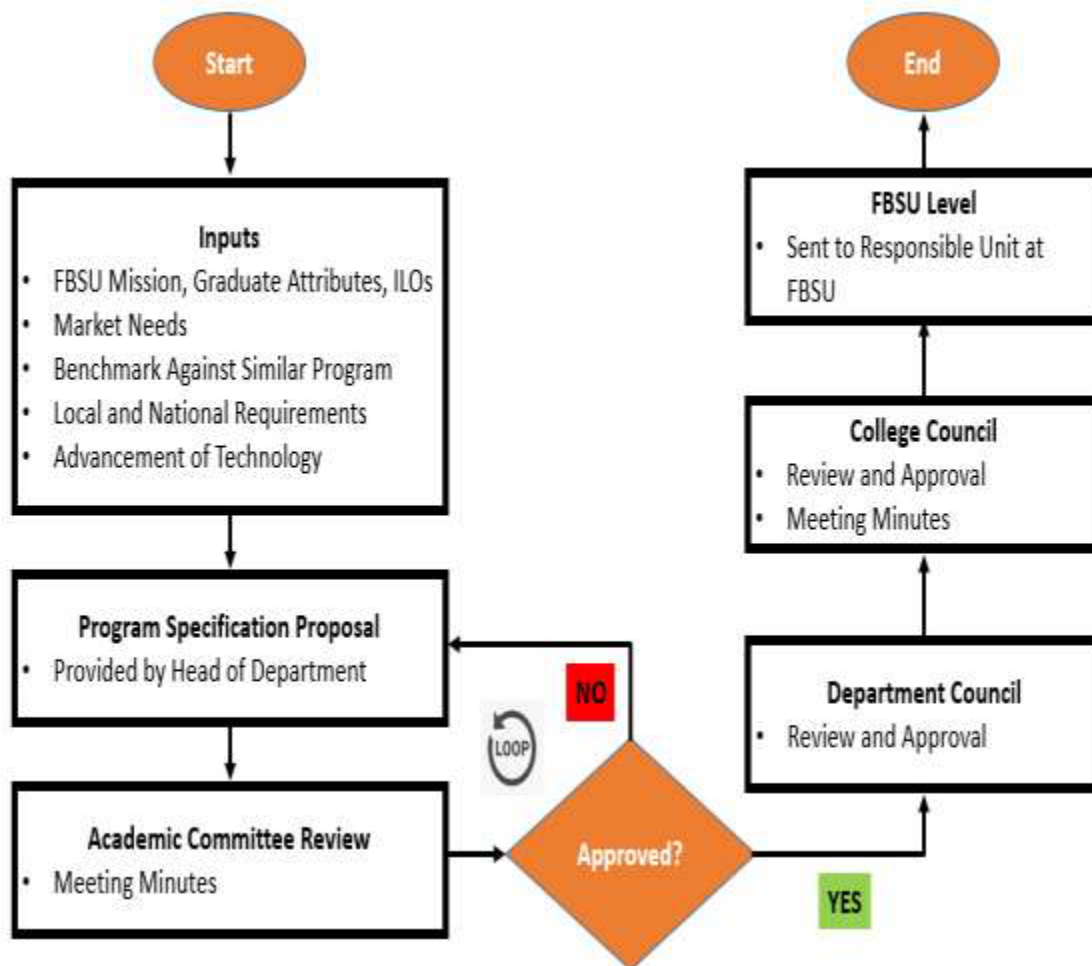
Figure 3: Flowchart of Developing a New Program at CoE.

It is worth mentioning that the quality assurance committee at CoE is responsible for monitoring the process and checking meeting minutes as evidence.

4.3 Curriculum Mapping (CLOs to PLOs to NQF Domains)

The head of departments at CoE is required to develop PLOs according to the policy

provided by FBSU, which can be navigated through the following link:

https://fbsu.edu.sa/Bylaws/AA-408-P01-PLO-Procedure.pdf.

Each instructor at COE is required to provide course specifications for the courses he\she

teaches. The process of developing CLOs follows the standard policy offered by FBSU, which

can be navigated through the following link: https://fbsu.edu.sa/Bylaws/AA-409-CLOs-Development-Policy.pdf. In addition, a course report must be provided for each course by the instructor at the end of each semester.

Both instructors and heads of departments must use the standard format provided by NCAAA to develop course specifications, course reports, and program specifications. The following link provides the most updated documents:

https://etec.gov.sa/en/service/accreditation/servicedocuments provided by NCAAA.

CLOs in course specifications feed PLOs, which in turn serves ILOs. The course reports are used to generate annual program reports. Figure 4 illustrates the mapping from CLOs to PLOs aligned with NQF and NCAAA standards.
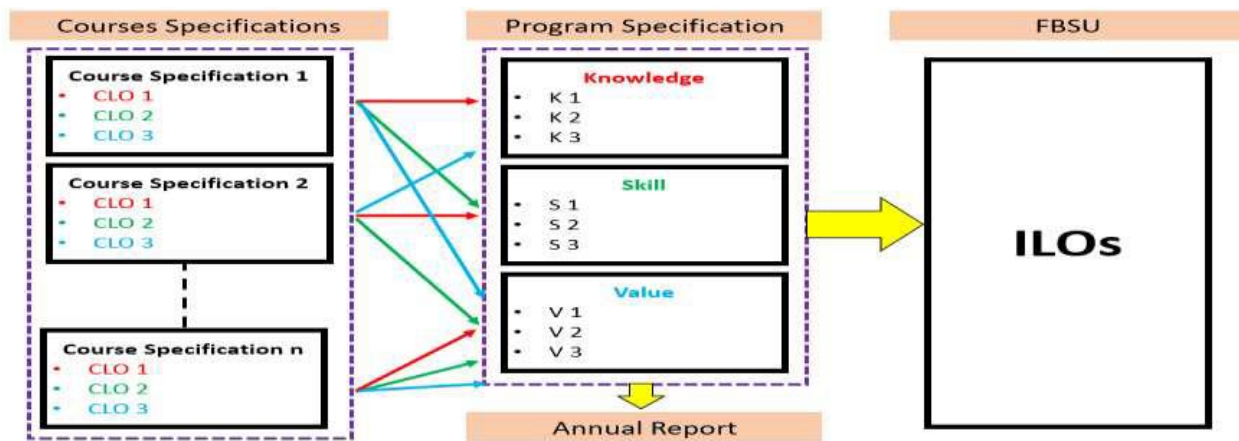
Figure 4: Mapping CLOs to PLOs to ILOs.

4.4 Benchmarking and Program Comparability

The essence of benchmarking is the continuous process of comparing an organizational strategy, products, and processes with other organizations/institutions best-in-class. The purpose is to learn how they achieved excellence, and then set out to match and even surpass it.

4.4.1 Basic Benchmarking Methodology

A) Plan:
1. What to benchmark?

- Identify critical processes.

- Collect internal data for comparison (how performance is measured; Understand strengths and weaknesses of current process).

2. Who to benchmark?

- Internal Units (comparison within an institution).

- Other Colleges and Universities (comparison across institutions).

- Functional Comparisons (across diverse settings - higher education, corporate, industry, etc.).

- Best in Class (compared with exceptional performers).

B) Implement:
3. Collect data Department of Business Administration (for example).

- Collect comparative data (qualitative/ quantitative).

- Surveys, Annual Program Reports, review of websites.

- Systematic collection.

C) Analyze:
4. Analyze data.

- The gap between performances (Are others better? Why are they better?).

- New strategies/ practices for adoption (What practices could we adapt and adopt?).

D) Act:
5. Implement improvements.

- Action plan for change.

- Implement changes.

- Measure results for effectiveness.

Programs at COE have analyzed and reviewed colleges offering other programs under the umbrella of different universities. College has benchmarked programs offered in the UBT College and Prince Muqrin University, as external benchmark programs and have MOUs signed with them for the following major reasons;

- Due to similarity in regional and cultural attributes.

- All programs selected for benchmarking have already been accredited by NCAAA.

UBT
عضو الاتحاد الدولي للجامعات
عضو اتحاد الجامعات العربية

قياس مؤشرات الأداء الرئيسية للبرامج الأكاديمية

الصادرة عن هيئة تقويم التعليم والتدريب/ المركز الوطني للتقويم والاعتماد
الأكاديمي للسنة:

1443-1444 هـ / 1444-1445 هـ

اسم البرنامج: بكالوريوس الهندسة الكهربائية
مستوى المؤهل: بكالوريوس
القسم العلمي: الهندسة الكهربائية
الكلية: الهندسة
المؤسسة: جامعة الأعمال والتكنولوجيا

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Figure 5 Sample Benchmarking with UBT College

4.5 Survey Analysis Report on Course Evaluation

4.5.1 Formal Feedback Analysis Procedure

Survey results are compiled and analyzed statistically (mean scores, satisfaction rates) and thematically (for open-ended comments). Departmental Teaching Evaluation Reports are generated for each academic department. Each report identifies:

Strengths (areas scoring above benchmark)

Weaknesses (areas scoring below benchmark)

Common qualitative themes (student concerns or suggestions)

a) Responsible Unit:

Quality Assurance Unit

b) Action Planning Based on Feedback

After analyzing survey data, each Department Council holds a Teaching Review Meeting every semester to:

Review the feedback analysis.

Identify courses or teaching practices needing improvement.

Recommend specific actions (e.g., changes to course content, new teaching strategies, more active learning, revision of assessments).

Structured Feedback Collection and Analysis

Figure 6 : Feedback Analysis Flow Chart

c) Course Action Plans are created by faculty members for courses scoring below target benchmarks or receiving significant negative feedback.

d) Responsible Unit:

Department Chair + Faculty Members

4.5.2 Documenting Changes and Improvements

A **"Feedback-to-Action"** is completed for each course at the end of the Course report:

Key feedback points

Actions taken or planned

Responsible faculty members

Timeline for implementation

This documentation is stored in the department's Annual Quality File and submitted to the Deanship of Quality for central monitoring.

Table 5 : Feedback-to-Action Summary Sheet

Item	Description
Department of	......
Semester	....
Course Name and Code	(e.g., Electrical Circuit – ELEE)
Instructor Name	Dr. ....
Summary of Key Student Feedback	List major points raised in surveys, e.g., "Lectures were too fast", "More practice problems needed", "Unclear grading criteria"
Analysis of Feedback	Brief comment from the department, e.g., "Students struggled with rapid delivery; lacked hands-on practice."
Action Plan	Describe the action(s) the instructor/department will take, e.g., "Instructor will slow pacing, allocate more time for examples, and post additional practice sheets."
Responsible Person(s)	Dr. ....
Department of	......
Semester	....
Timeline for Implementation	Starting ...... Semester
Monitoring Method	review next end-of-semester survey.
Follow-up Status	To be filled after next survey, e.g., "Improvement observed, satisfaction increased by 20%".

SECTION - V
TEACHING AND LEARNING

5. TEACHING AND LEARNING POLICIES

5.1 Teaching and Learning Policies

1. New Faculty Orientation Policy: It is mandatory for all new faculty members to participate in this orientation. The orientation should take place during the non-teaching week before the start of the academic semester.

2. Course Design Policy provides general guidelines for designing courses and modules in the context of an OBE (Outcome Based Education) system. It is required for all new faculty to attend a course design training on course design according to FBSU's policies and procedures.

3. Course Syllabus Policy provides guidelines for preparing course syllabus based on NCAAA and the program international accreditation agency requirements.

4. Course Specifications Policy provides guidelines for preparing course specifications based on NCAAA and the program international accreditation agency requirements.

5. Course Learning Outcomes Development Policy provides guidelines for preparing CLOs based on NCAAA and the program international accreditation agency requirements.

6. Program Amendment Policy provides roles and guidelines for making and approving major and minor program amendment.

7. Program Specifications Policy provides guidelines for preparing program specifications based on NCAAA and the program international accreditation agency requirements.

8. Learning Outcomes Assessment Policy outlines the main T&L quality assessment processes at the course and program level, including the use of an electronic software system.

9. Professional Development Policy emphasizes continuous improvement, requiring faculty members to remain current and up to date regarding their fields and the required T&L skills. The quality assessment- improvement cycle will not be completewithout continuous support for the professional development of faculty members in allskill areas relating to Teaching and Learning. This policy describes FBSU's strategy regarding the development of T&L skills.

10. [Classroom Observation Policy](#) provides guidelines on the process and procedures of classroom observations.

11. [Program Assessment Policy](#) outlines the main T&L quality assessment processes at the program level, including the use of an electronic software system. The policy uses outcome-based education as its underlying philosophy and employs several tools to assess T&L Quality and recommend improvements. The review process is cyclic, and the results are raised every year to the TLC.

12. [Curriculum Development and Review Policy](#) describes in detail the principles and procedures that should be followed to develop new curricula or review existing programs. The policy ensures that all FBSU programs remain current, sound, and relevant.

13. [Student Assessment Policy](#) outlines the major principles, goals, guidelines, and processes for Student Assessment. They are strongly based on the principles of Outcome-Based Education (OBE Centric).

14. [E-Learning Management System (E-LMS) Policy](#) enhances the quality and effectiveness of the University's E-LMS to provide students with access to fundamental course materials, resources, and any needful information.

15. [Teaching and Learning Quality Framework Policy](#) provides IT support for faculty members to become more effective and more efficient in their teaching. It is to encourage collaboration with students and faculty members to promote high-quality educational experiences at Fahad Bin Sultan University via the use of technology in the T&L cycle in line with the Learning Outcomes. The Teaching and Learning Center and the eLearning Center support, promote, and encourage faculty and staff to apply technology in their day-to-day academic and administrative- related tasks/responsibilities.

16. [Academic advising Policy](#). All faculty members within a degree-granting program willbe assigned students to advise. Academic advising is mandatory for all students to beable to register for their courses. All faculty members are required to learn about the procedures required for advising by attending the workshop sessions offered by the Teaching and Learning Center TLC and the Deanship of Admission & Registration Office DAR. The purpose of this policy is to provide guidelines on academic advisingfor University-Level students.

17. Student Special Needs Policy identifies problems and other difficulties with students perceived as being somewhat challenged and in need of more remediation than the norm in that group or class.

18. Academic and Intellectual Freedom Policy and Academic Misconduct Policy emphasize academic honesty and the avoidance of plagiarism and all practices that contradict well-established academic integrity standards.

19. Faculty Code of Conduct Policy provides guidelines on the code of ethics of faculty members. It is intended to help maintain a high standard of professional conduct andpersonal integrity. It provides the grounds for informing faculty members of the acceptable behavior that is consistent with the university mission, the system of valuesof the society, and the universally accepted principles or norms of academic professionalism.

5.2 Teaching Effectiveness Evaluation

Evaluating teaching effectiveness is a critical component of the COE's Quality Assurance framework. It ensures that instructional practices align with institutional learning outcomes, foster student engagement, and continuously improve based on evidence and feedback. The evaluation process is structured, data-informed, and aligned with national and international academic standards.

5.3 Evaluation Methods

The following tools and mechanisms are used to evaluate teaching effectiveness (supported by figures 7 , 8 and 9 from the FBSU evaluation system):

5.3.1 Student Course Evaluations:

- Anonymous surveys are conducted at the end of each semester using a standardized instrument.

- Students rate their instructor's teaching strategies, communication clarity, subject knowledge, and responsiveness.

- Results are aggregated and reported to faculty and academic leadership for reflection and improvement.

Figure 7 *Course Evaluation Systems*

Figure 8 *: Course Evaluation Surveys.*

Spring 2023-2024							
Course	Fundamental of Power Electronics	Instructor	عمار القحطاني	Section	30	Course Code	REE 310
الكلية	Engineering	Department	Renewable Energy Engineering	Response	100.00%	Average Program	4.15
The start of the course							
The course outline (including the knowledge and skills the course was designed to develop) was made clear to me.							4.45
The things I had to do to succeed in the course, including assessment tasks and criteria for assessment, were made clear to me.							4.18
Sources of help for me during the course including faculty office hours and reference material, were made clear to me.							4.27
What happened during the course							
The conduct of the course and the things I was asked to do were consistent with the course outline.							4.09
My instructor(s) were fully committed to the delivery of the course. (Eg. classes started on time, instructor always present, material well prepared, etc).							4.36
My instructor(s) had thorough knowledge of the content of the course.							4.64
My instructor(s) were available during office hours to help me.							4.45
My instructor(s) were enthusiastic about what they were teaching.							4.73
My instructor(s) cared about my progress and were helpful to me.							4.68
Course materials were of up to date and useful. (texts, handouts, references etc.)							4.23
The resources I needed in this course (textbooks, library, computers etc.) were available when I needed them.							4.18
In this course effective use was made of technology to support my learning.							4.50
In this course I was encouraged to ask questions and develop my own ideas.							4.27
In this course I was inspired to do my best work.							4.36
The things I had to do in this course (class activities, assignments, laboratories etc) were helpful for developing the knowledge and skills the course was intended to teach.							4.36
The amount of work I had to do in this course was reasonable for the credit hours allocated.							4.59
Marks for assignments and tests in this course were given to me within reasonable time.							3.95
Grading of my tests and assignments in this course was fair and reasonable.							4.59
The links between this course and other courses in my total program were made clear to me.							4.59

Figure 9 : *Sample Instructor's Course Evaluation*

5.3.2 Peer Review of Teaching

- Peer evaluations are conducted for faculty members to ensure adherence to effective teaching standards.

- Professor cadre faculty members from the department conduct the evaluations using a standardized observation rubric that assesses instructional clarity, content delivery, classroom interaction, and learning environment management.

- After the conduct of the process the final consolidated report is submitted to the Dean from the quality chair.

- Figures 5.4 below shows the template deployed for the assessment.

Fahad Bin Sultan University

Peer Review Report Form

College:	Department:
Instructor's Name:	Course:
Term:	Academic Year:
Review Date:	Review Time:

Reviewer(s) evaluation of each of the following Criterion:

5: Extremely Effective;	*4: Highly Effective;*	*3: Somewhat Effective;*
2: Least Effective;	*1: Not Effective;*	*NA: Not Applicable*

Criteria	5	4	3	2	1	NA	Comments
Mastery of the subject matter							
Effective use of delivery tools (PPT, multimedia, whiteboard, etc.)							
Class time management							
Teaching style inspire students							
Use of tone of voice							
Communicate with students							
Use of collaborative work							
Encourage students to ask questions and provide instant feedback							
Response to students' questions							
Use of relevant case studies							
Work relevant examples							
Relate material to current issues							
Quick review of previous lecture							
State objectives of current lecture							
Summarized what was covered							
Required textbook							
Took attendance							
Gave handouts							
Assigned homework							

Fahad Bin Sultan University

Reviewers' summary
Best teaching practice:
Worst teaching practice:
Additional insights:
Overall assessment and comments:
Specific recommendations to the instructor: 1) 2) 3) 4)

Reviewer's Name	Signature	Date

Instructor's Signature:	Date:

Figure 10 Peer Review Template

5.3.3 Course File and Portfolio Review

- Course portfolios are submitted at the end of each semester and reviewed by the Quality Assurance Committee.

- Each file is checked for alignment of course learning outcomes (CLOs) with instructional methods and assessment tools.

- Checklist is maintained and feedback is provided to each individual faculty member in case of any discrepancies found in the course files.

Figure 11 : Sample Instructor Portfolio View

5.3.4 Review Course Portfolio

It is expected that the output of the quality assurance process, including assessment approaches at the level of programs and level courses, as well as syllabus and teaching material up-to-date approach will be reflected on the course portfolio. Figure 12 illustrates the review course portfolio process.
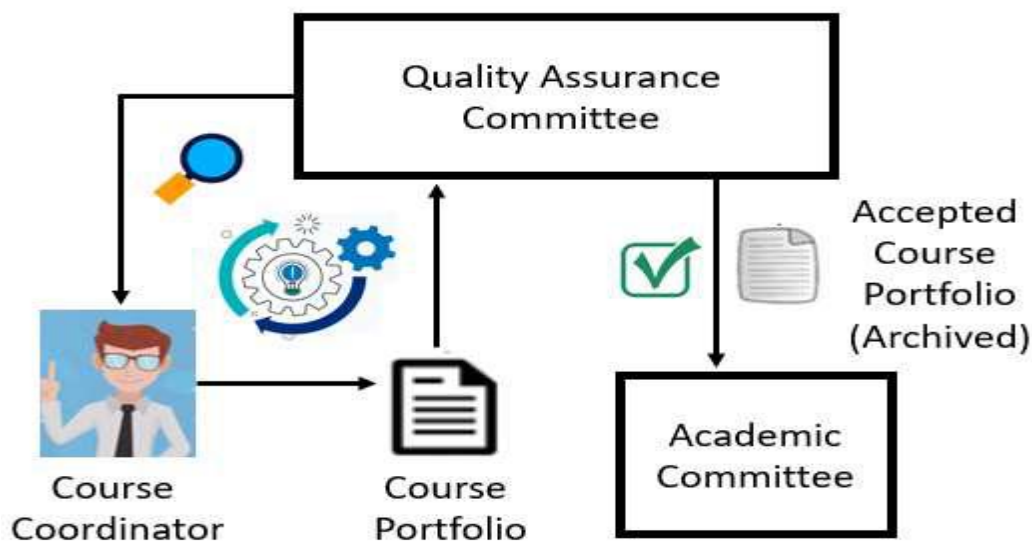
Figure 12 *: Review Course Portfolio Process*

Figure 12 illustrates a sample of a review process in detail based on a form designed by the quality committee. All courses of all instructors are involved according to semester with all components of the course portfolio. For each component, the evaluation is documented and a summary of the main comments is presented above the reviewed components.

5.4 Moderation of Assessments

Heads of departments are responsible for defining moderators of courses at the beginning of each semester. Pre- and post-moderation of exams and assignments ensure content validity, fairness, and CLOs alignment. Feedback from moderators is shared with instructors for instructional refinement. The exam assessment method is developed by the quality assurance committee to include moderation. Figure 13 and 14 shows the Pre- and Post-Moderation forms, respectively.

PRE-ASSESSMENT MODERATION FORM

College:	College of Engineering	Department:	Electrical Engineering
Program:	Bachelor of Electrical Engineering		
Academic Year:	24-25	Semester:	Fall
Dean:	Khaldoon Bani Hani	Dept. Chair:	Ali Ramadan
Course Code:	ELEE 390	Course Title:	Electromagnetic
Type of Assessment:	Direct (Midterm Exam)	Date of Assessment:	October 22, 2024
Name of Moderator:	Ali Al-Shetwi		

Name of Moderator:				
		Yes	No	Comments
1	Is the assessment consistent with the course learning outcomes and their relative weights?	×		a) Each problem is aligned with its corresponding course learning outcome as per the course syllabus. b) The ratio of the problems' assigned grades is consistent with CLO2:CLO3=30%:20% weights.
2	Does the assessment enable students to provide evidence corresponding to the stated learning outcomes?	×		The CLOs targeted in this assessment are problem-solving based. This assessment indeed reflects each student's ability in performing transmission line calculations (CLO2) and employing vector calculus in solving electromagnetics-based problems (CLO3).
3	Is the assessment appropriate to the course level?	×		This assessment is appropriate to the course level.
4	Are all assessment instructions and marking schedule details, available to students, clear for all students to understand?	×		The grade of each problem and its mapped CLO are clearly outlined on the exam's cover page.
5	Is the marking schedule clear for markers to understand?	×		The exam's key solution is neat in terms of grade distribution (per problem) and marking procedure.
6	Does the marking schedule indicate the range of evidence and Judgment required to ensure consistency in assessment?	×		The marking schedule is designed to ensure consistency in assessment.
7	List any changes you recommend before the assessment and marking schedule is used		×	N/A
8	Any other comments you have arising from this pre-assessment Moderation?		×	N/A

Figure 13: Pre-Moderation Form

POST- ASSESSMENT MODERATION FORM

College:	College of Engineering	Department:	Electrical Engineering
Program:	Bachelor of Electrical Engineering		
Academic Year:	24-25	Semester:	Fall
Dean:	Khaldoon Bani Hani	Dept. Chair:	Ali Ramadan
Course Code:	ELEE 390	Course Title:	Electromagnetic
Type of Assessment:	Direct (Midterm Exam)	Date of Assessment:	October 22, 2024
Course Instructor:	Ali Ramadan		
Name of Moderator:	Ali Al-Shetwi		

No.	Student Name	ID	Selection Criteria	Mark Awarded	Moderator's Comments
1	Rayan Abdullah S Alghamdi	202111199	Highest grade	22	verified
2	Maram Saleh S Alatawi	202115131	Above Average	15.5	verified
3	Saud Abdulaziz I Alsharari	202111168	Above Average	13.75	verified
4	Hadi Ali S Aldhawi	202312058	Around Average	10.5	verified
5	Mohammed Saleem M Alhawiti	202312092	Around Average	10	verified
6	Thamer Abdullah H Alzahrani	202212039	Below Average	6.5	verified
7	Saud Mari S ALqarni	202312145	Below Average	5	verified
8					

Moderator's General Comments

		Yes	No
1	Documentation seen: ✓ Full list of marks awarded to all students for this assessment ✓ Course assessment scheme ✓ Brief and assessment criteria ✓ Marking scheme ✓ Grade descriptors ✓ Feedback	×	
2	Does the moderation sample reflect the full range of marks and markers?	×	
3	Does the marking conform to the marking scheme?	×	
4	Does the marking conform to the verified assessment criteria?	×	
5	Are the marking decisions consistent?	×	
6	Are there any recurring themes, patterns, discrepancies?		×
7	Have any concerns been resolved with the marker(s)? (if Yes, what actions have been taken?)		×

I have checked the marking of the items in this sample and confirm that the verified assessment and marking criteria have been accurately, consistently and fairly applied.

I do confirm the marks for all students who have taken this assessment.

Moderator's Signature:	Ali Al-Shetwi	Date:	November 5, 2024

Figure 14 Post-Moderation Form

5.5 Use of Blended/Online Learning Standards

The College of Engineering at Fahad Bin Sultan University is committed to delivering high-quality blended and online learning experiences that uphold academic rigour, foster student engagement, and ensure alignment with national and international quality standards. The implementation of blended and online learning is guided by best practices and compliance with standards set by the National eLearning Center (NELC) in Saudi Arabia.

5.6 Strategic Implementation

Blended and online delivery is adopted strategically across select courses to enhance accessibility, flexibility, and student-centered learning. Courses delivered online in blended formats are identified in course specifications and approved by the department and college councils. The Learning Management System (LMS) (Moodle) is the primary platform used to deliver, manage, and monitor online instruction.

5.7 Standards and Compliance

Blended and online learning practices follow the Saudi Standards for E-Learning, as defined by the National eLearning Center, including:

- Design Standards: Structured content modules and engagement strategies

- Accessibility: Learning content must be accessible to all students, including those with disabilities

- Interaction: Ensures frequent interaction between instructor and students, and among students.

- Assessment: Online assessments are aligned with course learning outcomes and ensure academic integrity.

5.8 Course Design and Delivery

Online materials are structured with clearly defined learning objectives, multimedia content, interactive elements, and formative assessments. Teaching methods incorporate videos, recorded lectures, online quizzes, discussion forums, and project-based learning. Learning analytics tools are used to monitor student progress, engagement, and achievement.

5.9 Quality Assurance Administrative Calendar

The Departments at CoE prepare the DQAA calendar for the Department Chairpersons and faculty members at the start of each academic year, aligning it with the FBSU academic calendar. This comprehensive QA calendar serves to track the submission of essential documents, enhancing monitoring and review processes for continuous quality improvement in teaching and learning.

DQAA details the essential documents and their submission timelines for the departments at CoE during the academic semester. It is divided into three phases: the beginning of the semester, during the semester, and the concluding weeks after exams. This structured timeline ensures that all necessary documentation is completed and submitted promptly, supporting effective course management, academic integrity, and continuous improvement in teaching and learning outcomes. Figure 15 shows the structure of the COE DQAA calendar.

Faculty Member Administrative Calendar

No	Name of the Document	Timeline	Status
Beginning of the Semester (Week 1 to 2)			
1	Submission of Course Specifications to the chairs	End of Week 1 of the term	
2	Upload Course Outlines to Moodle System	End of Week 1 of the term	
3	Updating the assessment schedule on Moodle System	End of Week 2 of the term	
4	Door Class schedules with office hours	End of Week 2 of the term	
5	FBSU Academic Integrity & Syllabus Acknowledgement Form	End of Week 2 of the term	
During the Semester (Week 3 to 16)			
6	Submission of 20% midterm grades	Before the last day for dropping the course with W	
7	A compiled report on Low GPA students	End of Week 8 of the term	
8	Academic Advising Logbook	Throughout the semester	

No	Name of the Document	Timeline	Status
9	Maintaining Grade book on Moodle	Throughout the semester	
10	DN forms (Progress Report, Attendance, and midterm grades till date)	End of Week 12 of the term	
11	Submission of 60% of midterm grades on Moodle System	End of semester (before end of week 15)	
12	Faculty Satisfaction Survey	Week 10-12 of the 2nd academic semester or before the annual faculty evaluation	
13	Update Faculty portal	This should be updated throughout the semester and submitted during week 12.	
14	Submit annual faculty Evaluation evidence	Week 10-12 of the 2nd academic semester	
15	Sign annual faculty evaluation	Week 10-12 of the 2nd academic semester	
16	Submission of the final grades	Final exams will be during weeks 16-18	
17	Submission of the Final Exam Student answers	Week 16-18 of the term	
During the Semester (Week 17 to 18)			
18	Prepare section and combined Course Report	After the semester exam	
19	Submit e-course portfolio	After the semester exam	

Figure 15 Quality Assurance Administrative Calendar

Department Chairpersons Administrative Calendar

The calendar helps the Department Chairpersons to maintain proper documentation for the academic programs that are responsible for.

No	Name of the Document	Timeline
1	Annual Action Plan for the next academic year	End of the academic year
2	Program Specification Note: The Program Specification should be changed in case any curriculum changes have been made in the program, otherwise old copy can be submitted)	End of Week 5 of the 1st term
3	Submission of NCAAA KPIs at program or department level for the previous year	End of Week 7 of the 1st term
4	Annual Program Report of the previous academic year	End of Week 7 of the 1st term
5	Updates on the Academic Advising List	End of Week 2 of each term
6	Compiled report of low GPA students	End of Week 5 of each term
7	Receiving 20% midterm grades from the faculty	Before the course withdrawaldate
8	Teaching Load (First draft)	As asked by the highermanagement
9	Recruitment Requirements	As asked by the highermanagement
10	Annual Budget	As asked by the highermanagement
11	List of Textbooks for the next academic semester	Week 6-7 of each term
12	Chairperson or Peer review of Classes	Week 4 onwards of the term or as arranged in the individual department but prior to week 15.
13	Faculty Annual Evaluation	End of each year. Results signed evaluations, etc.to be submitted to the President's Assistant for Academic Affairs.
14	Annual Strategic Plan Progress Report of the Program	End of each year. To be submitted to the Officer of Strategic Planning and Development Office
15	Department meeting minutes and closing the loop on the topics discussed in the meeting	Week 14 of each term
16	NCAAA Template -B	Week 5 of 2nd term
17	Help CSI in preparing Alumni Database	End of Week 8 of each term
Extra-Curricular Activities for the Department in collaboration with the various Administrative Units		
18	A report on the professional development activities w.r.t teaching and learning Concerned office: Teaching and Learning Center	End of the academic year
19	A report on the research activities Concerned office: Dean of Graduate Studies & Research	End of the academic year
20	Community Service Report from the Community Service Office along with the results of the relevant NCAAA KPI Concerned office: Consultative Center for Studies Community Service	End of the academic year
21	A report on the extra-curricular activities (workshops, field trips, student club activities, Academic Advising)	End of the academic year

Figure 16: COE DQAA Calendar

SECTION - VI
STUDENT ASSESSMENT METHODS AND LEARNING OUTCOMES

6. ASSESSMENT POLICIES AND PLANS

6.1 Assessment Policy

The College of Engineering at Fahad Bin Sultan University implements a robust assessment policy to ensure that student learning is measured accurately, fairly, and consistently across all programs and courses. It follows the policy of exams and assessments provided by FBSU:

https://fbsu.edu.sa/Bylaws/AA-108-Exams-and-Assessments-Policy.pdf.

The assessment system is aligned with the NCAAA standards and supports the achievement of CLOs, PLOs, and ABET accreditation criteria.

6.2 Assessment Policy – Principles

The assessment policy is guided by the following principles:

1) **Alignment with Learning Outcomes**: All assessments are directly mapped to CLOs, which are themselves aligned with PLOs and national qualification frameworks. This ensures that students are evaluated based on well-defined competencies in knowledge, skills, and values.

2) **Variety and Balance**: A variety of assessment methods are employed to address different learning styles and outcome domains. A balanced mix of formative (ongoing) and summative (final) assessments is maintained to capture student progress and final achievement.

3) **Transparency and Fairness**: Assessment criteria, rubrics, and grade weightings are communicated clearly to students at the beginning of each course through the course specification.

4) **Continuous Improvement**: Assessment results are analyzed regularly and used to inform teaching practices, course adjustments, and program-level improvements.

The College of Engineering implements a consistent assessment policy and set of procedures across all its graduate and undergraduate programs. This standardized approach ensures fairness, transparency, and equality in evaluating student performance and academic achievements within the college's educational offerings. Following is the list of assessment activities deployed during the self-study year.

a) Internal Examinations: first exam, second exam, final exams

b) External Examination: This is conducted for undergraduate programs from the graduating students by the Ministry of education for Program evaluation.

c) Assignments: Such as exercises, case studies, and projects.

d) Presentations: Individual or group presentations on topics related to coursework.

e) Quizzes: Short assessments to gauge understanding of specific topics or concepts.

f) Class Participation: Active engagement in class discussions

g) Homework: Regular assignments to reinforce learning and apply concepts.

h) Project assignments: a project-based assignment given to students to enhance their research and analysis skills.

i) Internship Evaluations: Assessing performance and learning outcomes during internships or practical experiences.

j) Capstone projects

k) Case study: Analyzing real-world engineering case study and presenting findings or analysis.

l) Employers survey

m) Alumni Survey

n) Exit Survey

o) Student satisfaction survey

p) Students' course evaluation

q) Program Evaluation Survey

Course assessment occurs at the end of each semester (Fall and Spring), with all assessment scores for courses being uploaded onto the university portal SIS. Consequently, Course Learning Outcomes (CLOs) are evaluated at the end of each semester and reported in the course reports. However, Program Learning Outcomes (PLOs) are assessed annually. The collected data, along with a blank template for the annual report, is provided to program chairs/coordinators for further scrutiny. Utilizing various analytical techniques, chairs evaluate the data and present the findings in the annual program report. Standardized templates of APRs assist in creating consistent reports that can be consolidated to evaluate broader college issues and address the needs of various accrediting bodies. This process enables program faculty to assess current performance, identify trends, and compare results across programs.

Each Program Coordinator collaborates with faculty in their discipline to analyze data, devise strategies for enhancing student learning, and complete the analysis template. The quality department reviews course reports for the academic year and shares them with program chairs, who then integrate the data into the annual program report.

Based on the recommendations by chairs in the program reports, the university has increased the number of required credit hours for the English language for the graduate programs. Likewise, COE has implemented a standardized cover page for college written exams. This cover page includes a table to aid instructors in tallying the scores of each Course Learning Outcome (CLO) for every student and the entire class. Moreover, the college has adopted a new approach, utilizing an Excel spreadsheet, to compute the class's scores for each CLO.

Furthermore, based on the recommendations in the APRs, FBSU consistently organizes training sessions to enhance faculty members' capacity to craft learning outcomes and efficiently evaluate their attainment.

6.3 Learning Outcomes:

Learning outcomes are specific statements of what students will be able to do when they complete a learning experience (whether it's a project, course, or program). They are always written in a student-centered, measurable fashion that is concise, meaningful, and achievable.

There are three levels of LOs.

➢ Institutional Learning Outcomes (ILOs)
➢ Program Learning Outcomes (PLOs)
➢ Course Learning Outcomes (CLOs)
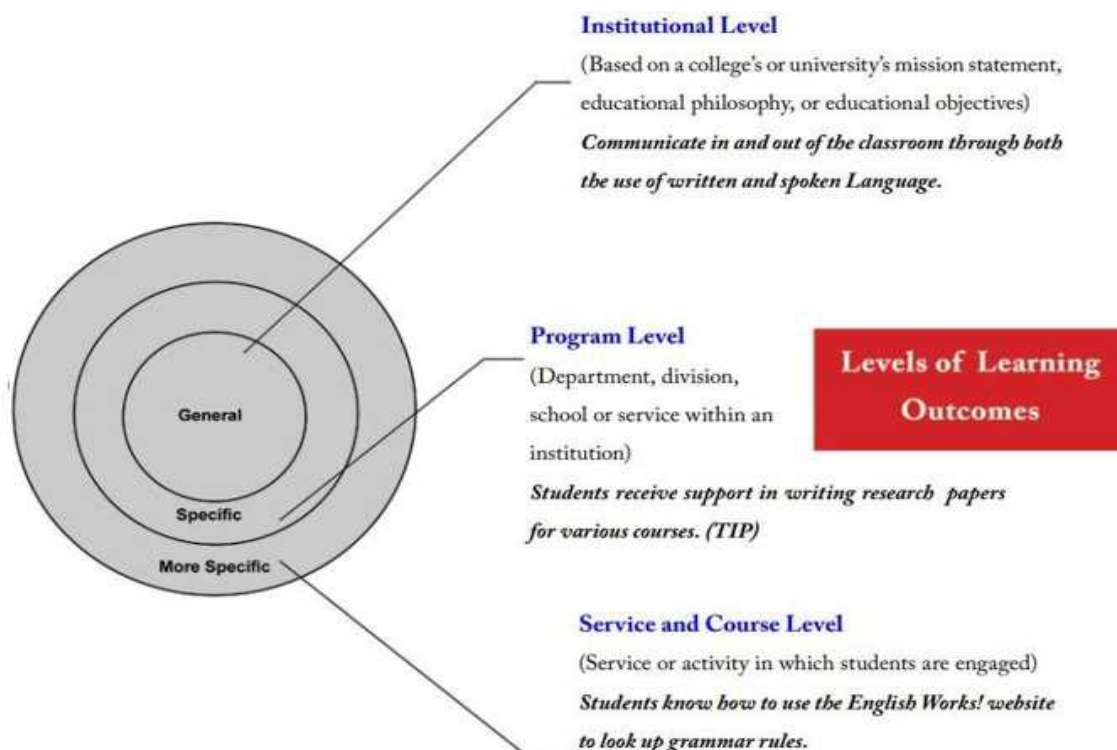
Figure 17*: Levels of Learning Outcomes*

6.3.1 Institutional Learning Outcomes (ILOs)

Institutional Learning Outcomes (ILOs) are the knowledge, skills, abilities, and attitudes that students are expected to develop as a result of their overall experiences with any aspect of the institution, including courses, programs, and student services. **ILOs** are designed to help guide individual departments and disciplines in the development of learning outcomes for programs and courses and services (**4.10-ILOs-Development-Policy**), (**4.11-LOs-Writing-Guide**).

Program Learning Outcomes (PLOs) represent the knowledge, skills, or behaviors that students should exhibit upon completing their program. At FBSU, all colleges and programs adhere to a standardized policy and procedure for developing PLOs **(4.12-PLOs-Policy)**, **(4.13-PLOs-Procedures)**.

CLOs are specific and measurable statements that define the knowledge, skills, and attitudes learners will demonstrate by the completion of a course. At FBSU, similar to PLOs, all colleges and programs adhere to a standardized policy and procedure for developing PLOs (**4.14-CLOs-Policy**), (**4.15-CLOs-Procdures**).

6.3.2 Program Learning Outcomes (PLOs)

PLOs are those outcomes each specific program finds important for its graduates to have mastered while in the program. COE adopts an outcome-based teaching and learning strategy which mandates every program to identify a list of PLOs to achieve the graduate attributes. As mentioned earlier the below mentioned are the various Bachelors and Master programs offered in CoE;

Bachelor in Civil Engineering (BCE)
Bachelor in Electrical Engineering (BEE)
Bachelor in Renewable Energy Engineering (BREE)
Bachelor in Mechanical Engineering (BME)

Master of Civil Engineering (MCE)

Master of Electrical Engineering (MEE)

6.3.3 Course Learning Outcomes – Course outcomes aligned with PLOs (Program Learning Outcomes)

Knowledge & understanding:

1) Possess deep discipline knowledge in the field of specialty combined with contemporary pedagogical approaches and research methods to implement such knowledge.

2) Demonstrate knowledge and comprehension of the concepts, techniques and practices they have gained.

Skills:

1) Think creatively and critically and be capable of providing sound and innovative solutions to academic and work-based challenges.

2) Be able to adapt to and use the latest technological advancement to better serve their stakeholders and improve their own careers.

3) Be able to convey their ideas and communicate effectively with colleagues, stakeholders and society at large.

Values:

1) Exercise professional and ethical standards in their careers, workplace and community.

2) Demonstrate ability to perform career-related tasks professionally with autonomy and as a team member or leader while retaining a resilient passion for lifelong learning

3) Provide a significant and positive contribution to the development of their workplace performance and community involvement.

6.3.4 Learning Outcomes – Metrics

A) Program Learning Outcomes (PLOs): PLOs should be:

1. Developed by the respective department or the committee entrusted with this task.

2. Measurable and direct statements of the skills, knowledge, and competencies of a graduate.

3. Aligned with the CLOs to ensure your program's curriculum meets these objectives.

4. Assessed through direct and indirect assessment (Performance Indicators, Surveys, etc.).

B) Course Learning Outcomes (CLOs): CLOs are specific and measurable statements that define the knowledge, skills, and attitudes learners will demonstrate by the completion of a course. Like other LOs, CLOs are written with a verb phrase and declare a demonstrable action within a given time frame, such as by the end of the course. CLOs should be:

1. Specify knowledge, skills, and abilities that a successful student will attain from the course;

2. Be known by the students;

3. Be the basis for classroom assessment;

4. Be prepared by course instructors and coordinator and approved by the Department Council.

6.3.5 Benefits of LOs Assessment

The assessment of learning outcomes, when conducted properly, provides numerous benefits to all stakeholders at CoE.

1. **For Students**

- Clarifies expectations for learning and performance.

- Ensures they master the content and skills required for their academic program.

- Provides feedback on their progress toward achieving learning outcomes.

- Prepares them for professional practice and lifelong learning.

- Enhances the value of their degree through program accreditation.

2. **For Faculty Members**

- Provides data to inform improvements in teaching methods.

- Offers tools to continuously enhance curriculum content and structure.

- Helps identify areas where students are struggling and need additional support.

- Creates opportunities for collaboration and sharing of best practices.

- Supports scholarly teaching through evidence-based decision-making.

3. **For Employers and Society**

- Ensures graduates possess the knowledge and skills needed for professional practice.

- Increases confidence in the qualifications of CoE graduates.

- Contributes to economic development through well-prepared professionals.

- Addresses the needs of the engineering profession and society.

6.3.6 Role of Stakeholders in LOs Assessment

The assessment of learning outcomes involves multiple stakeholders, each with unique perspectives and interests in the success and continuous improvement of education at CoE.

1. Students

As the primary beneficiaries of the educational process, students have a vested interest in the quality of their education. Their feedback through surveys, focus groups, and course evaluations provides valuable insights into the effectiveness of teaching and learning. Students also participate directly in the assessment process by demonstrating their achievement of learning outcomes through various assessment methods.

2. Faculty Members

Faculty members play a central role in the assessment process. They develop course learning outcomes, design and implement assessment methods, evaluate student performance, analyze assessment results, and implement improvements based on those results. Faculty collaboration is essential for effective program-level assessment and curriculum improvement.

3. Department Chairs and program Coordinators

Department chairs and program coordinators provide leadership for assessment activities within their programs. They coordinate the development of program learning outcomes, oversee the implementation of assessment plans, facilitate faculty discussions of assessment results, and ensure that assessment leads to program improvement.

4. Employers and Industry Partners

Employers and industry partners provide valuable feedback on the knowledge, skills, and abilities needed in the workplace. Their input helps ensure that program-learning outcomes remain relevant to professional practice.

5. Accreditation Bodies

Accreditation bodies establish standards for assessment and evaluate the effectiveness of assessment processes during accreditation reviews.

6. Alumni

Alumni can provide feedback on how well their education prepared them for professional practice and further study. Their perspectives are especially valuable for evaluating program educational objectives.

6.3.7 Targets in LOs Assessment

Targets define the expected level of aggregated student performance for each assessment method (direct or indirect). These benchmarks are typically quantified using numerical values or percentages. Example: A target may specify that "at least 70% of students will score 3 or higher on all rubric criteria when evaluating research presentations.

6.3.8 Designing and Delivering ILOs, PLOs, and CLOs

The optimal method in creating and teaching learning outcomes is to design backwards to deliver forward. Start with the Institution's mission and College-level learning outcomes and work backwards to design program and course outcomes. Program and course outcomes should drive the design of activities and assessments within the classroom.

Figure 18 *Designing and Delivering Learning Outcomes*

6.3.9 Assessment Methods of Learning Outcomes

There are two types of tools used for assessing the learning outcomes: direct measures and indirect measures.

1) Direct measures

Assess the extent to which students' work meets the learning outcome performance standards. In other words, Direct Assessment Methods are methods for assessing actual samples of student work to provide evidence of student performance relative to the learning outcomes.

a) Selecting Direct measures

A student's course portfolio evaluation using rubrics

Projects & Presentations using rubrics

Exam Papers using rubrics: Faculty members will be asked to use rubrics to assess final exam questions in selected courses.

b) Assessment Instrument Used for PLO Assessment

The questions used for the final or midterm exams, should be used for CLO and, in turn, PLO assessment. For the PLOs which cannot be assessed through the exams, such as communication or teamwork, other appropriate assessment instruments should be used such as group projects, presentations, seminars, showcases, portfolios, etc.

2) Indirect Measures

Indirect measures compliment direct measures by providing supportive evidence, information, and student perspective. In other words, Indirect Assessment Methods are methods for assessing secondary information on student learning that do not rely on actual samples of student work.

a) Selecting indirect measures

There are many issues to consider when selecting indirect measures of learning. The institution should be creative in determining the most useful ways to measure student performance and ensure that the methods allow for meaning from interpretation and results. These methods may be quantitative or qualitative but should still address the key issues of strong measures.

Examples of indirect measures in the form of survey questions from the institutional surveys are to be mapped to the Institutional Learning Outcomes (ILO's). These surveys are listed below:

Program Evaluation Survey: conducted on final year students before they graduate. The specific questions in the program exit survey can be used for assessing certain PLOs. In other cases, the academic departments can administer a survey for the graduating students, which will allow students to assess the satisfaction of the Program Learning Outcomes.

Alumni Surveys: alumni are asked to rate the program outcomes and give their feedback regarding their experience through a survey that will be distributed annually.

Employer Surveys: Employers will be asked to rate the achievement of program outcomes through a survey that will be distributed periodically.

Course Evaluation Surveys: conducted at the end of every semester and provide feedback from all students for all courses offered in the University.

Learning Outcomes Exit Survey: Faculty members conduct a survey about the satisfaction of the students regarding the achievement of learning outcomes.

Employer Feedback: The employer or training organization's feedback based on certain performance criteria can also be considered an indirect measure of assessing the PLOs.

6.3.10 Assessment Plan of the Program Learning Outcomes

While programs are expected to engage in annual assessment cycles, it is not a requirement that every program learning outcome is assessed every year. As part of the assessment planning process, programs should identify a two- or four-year cycle, unless otherwise required by the program accreditation authority.

For example, an assessment cycle for a program with 8 PLO's is shown in Table 6.3. Collecting data on the selected outcomes each year provides the opportunity for programs to analyze the assessment findings, plan, and implement improvements before the next cycle of data collection for a particular outcome.

Table 6: Program Learning Outcomes

Schedule of Assessment	Program Learning Outcomes							
	A	B	C	D	E	F	G	H
Semester 1	■	■						
Semester 2	■	■						
Semester 3			■	■				
Semester 4			■	■				
Semester 5					■	■		
Semester 6					■	■		
Semester 7							■	■
Semester 8							■	■

1. Mapping and Documentation

- Each assessment item is mapped to its corresponding CLOs in the Course Specification.

- The Course Report provides a summary of assessment performance against predefined targets.

- Courses use standardized rubrics for major assessments to ensure consistency and fairness.

- All assessment tools and student samples are archived as part of the Course Portfolio, subject to internal QA review and external moderation.

2. Moderation and Review

- All exams undergo pre- and post-moderation to verify content validity, grading fairness, and alignment with CLOs.

- The QA Unit ensures that assessment practices are consistent across instructors and courses and that data is utilized for institutional improvement.

3. Standardization of Exams and Grading

- COE maintains strict standards for the design, administration, and grading of examinations to ensure fairness, consistency, and alignment with intended learning outcomes.

- Exam standardization is a core component of the academic quality assurance process and is aligned with the requirements of the NCAAA and ABET accreditation standards.

6.4 Hierarchical Relationships Among Goals, Objectives, and Outcomes

The Outcomes Pyramid presents a pictorial clarification of the hierarchical relationships among several different kinds of goals, objectives, and outcomes.

Figure 19: A Connected Hierarchy Aligning ILOs, PLOs and CLOs.

6.5 Using Bloom's Taxonomy in Writing CLOs

Bloom's Taxonomy is a hierarchical framework that categorizes educational goals according to their cognitive complexity. It provides a useful structure for developing CLOs that represent different levels of cognitive engagement and for ensuring that courses include an appropriate mix of lower-order and higher-order thinking skills.

6.5.1 Levels of Bloom's Taxonomy

The revised Bloom's Taxonomy includes six levels of cognitive processes, arranged from lower-order to higher-order thinking skills, as shown in the following Figure 20 .

Figure 20 Bloom's Taxonomy Cognitive Process

a) Remember: Retrieving relevant knowledge from long-term memory.

 Action verbs: Define, list, recall, recognize, identify, name, state.

b) Understand: Constructing meaning from instructional messages

 Action verbs: Explain, describe, interpret, summarize, classify, compare, contrast, and paraphrase

c) Apply: Carrying out or using a procedure in a given situation

 Action verbs: Apply, implement, use, execute, solve, demonstrate, compute, calculate

d) Analyze: Breaking material into constituent parts and determining how parts relate

 Action verbs: Analyze, differentiate, organize, attribute, distinguish, examine, test, and investigate

e) Evaluate: Making judgments based on criteria and standards

Action verbs: Evaluate, critique, judge, assess, appraise, recommend, justify, defend

f) Create: Putting elements together to form a coherent or functional whole

Action verbs: Design, construct, produce, plan, develop, formulate, invent, compose

6.5.2 Using Bloom's Taxonomy in CLO Development

When developing CLOs for CC courses at FBSU, consider the following guidelines related to Bloom's Taxonomy:

1. **Use appropriate action verbs**: Select verbs that clearly indicate the cognitive level expected of students. Avoid vague verbs like "understand" or "know" in favor of more specific verbs that indicate observable behaviors.

2. **Include a mix of cognitive levels**: Ensure that the course includes CLOs at various levels of Bloom's Taxonomy, appropriate to the course level and position in the curriculum. Introductory courses may emphasize lower levels, while advanced courses should include more high-level outcomes.

3. **Align cognitive levels with assessment methods**: Ensure that assessment methods are appropriate for the cognitive level of each CLO. For example, multiple-choice questions may be suitable for assessing "remember" and "understand" levels, while projects or case studies are more appropriate for "analyze," "evaluate," and "create" levels.

4. **Consider the progression of cognitive levels**: Within a course, consider how students will progress from lower to higher cognitive levels. Early in the course, focus on building foundational knowledge and understanding, and then move toward application, analysis, evaluation, and creation.

6.6 Alignment of CLOs with Student Outcomes

One of the most critical aspects of CLO development is ensuring alignment with Student Outcomes (adopted as PLOs at FBSU). This alignment creates a coherent educational experience for students and facilitates program-level assessment.

6.5.1 Course Assessment Approach

To start assessment, the five stages are applied, as described below.

A) Planning Assessment Stage at Course Level

Planning assessment has the following course of action:

1. The assessment plan is prepared by the course coordinator in which all the CLOs will be assessed using direct or indirect methods.

2. The course assessment plan should be approved by the quality coordinator or chairperson.

3. All CLOs are to be assessed at the course level using direct measurements via a specific rubric for each CLO.

4. The selected direct assessment method (s) should cover all CLOs in a course in every academic semester.

5. The course instructor should prepare a course exit survey every academic semester or year, depending on the department's policy.

B) Implementing Stage at Course Level

Implementing assessment has the following course of action:

1. The approved course assessment plan is implemented using direct and\or indirect methods.

2. The course instructor will report all CLO results every academic semester using direct and indirect methods in the semester the combined course report.

3. At the end of every academic semester, the course instructors are required to submit the PLO assessment results for the courses selected for the program assessment.

C) Monitoring Stage at Course Level

Monitoring assessment has the following course of action:

1. Tracking the application of direct assessment methods to ensure high accuracy of results at the course level.

2. Tracking the application of indirect assessment methods to ensure high accuracy of results at the course level.

3. Tracking the process of construction of the required reports.

D) Reviewing and Analyzing Stage at Course Level

Reviewing and analyzing assessment has the following course of action:

1. The quality committee members are required to monitor the CLO assessment process throughout the semester.

2. At the end of every semester, the course coordinators collect and analyze the CLO assessment results (direct and indirect).

3. The improvement actions related to learning outcomes, curriculum, and course management are discussed with the course instructors and then submitted to the quality committee and curriculum committee for approval.

E) Improvement\Updating Stage at Course Level (Closing the Loop)

Improvement has the following course of action:

1. Based on the analysis done, the quality committee review and approve recommendations for course improvement or promotion of good practices in coordination with course coordinators, the curriculum committee, and the department chairpersons.

2. The course assessment results are also recorded in the annual quality/assessment report and reported to the quality committee and curriculum committee for monitoring and feedback at the program level.

3. These approved improvement actions are then submitted to the department chairperson to be included in the decision-making process and continuous enhancement of the program.

6.7 COE Learning Outcomes (LO's) Alignment with NCAAA and COE Mission

COE at FBSU, Institutional and Program Assessment Procedures adhere to the standards set by the NCAAA. The pertinent best practices are 3.1, 3.2, & 3.3, applicable to both institutional and program evaluations. A visual representation of these relevant best practices is provided in Figure 21 below.
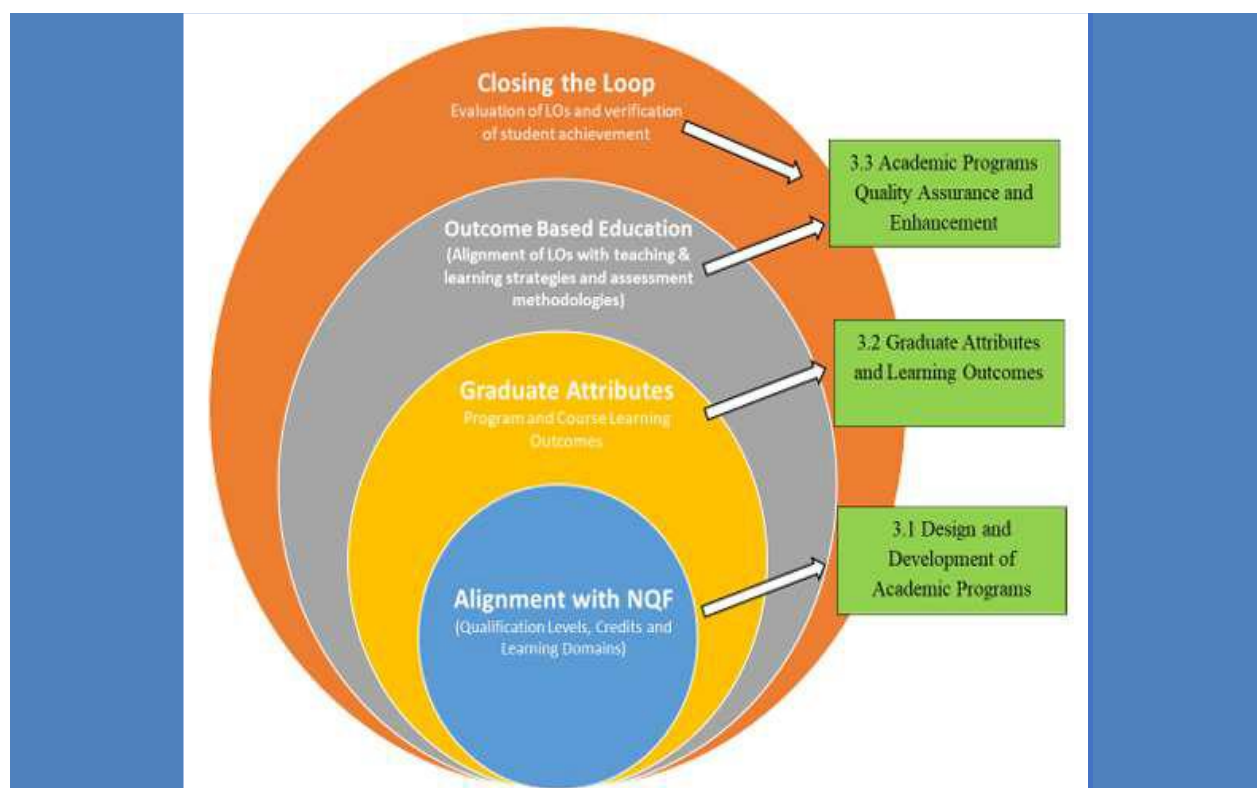
Figure 21 : **Compliance of Quality Assurance Framework to the Saudi NQF**

It is crucial to emphasize that the CoE QA Manual complies with both the National Qualifications Framework and the standards set by NCAAA. The diagram above illustrates this correlation. The NQF serves as the blueprint for aligning our educational strategies with the demands of the job market, ensuring quality standards throughout the educational landscape. COE has embraced the NQF as the framework for its QA manual.

6.8 Exam Development and Approval

1. **Exam Blueprinting**: All major exams (first term, midterm and final) are designed based on a blueprint that maps each question to specific CLOs, cognitive levels (e.g., Bloom's taxonomy), and question types (e.g., MCQs, short answers, problem-solving). The blueprint ensures appropriate coverage of all CLOs and a balanced distribution of difficulty levels.

2. **Pre-Moderation Process**: Before administration, exams are reviewed by the course moderator (assigned faculty member or QA representative) to ensure:

- o Alignment with CLOs.
- o Validity and clarity of questions.
- o Appropriate marking scheme.

6.8.1 Grading Standardization

1. **Model Answers and Marking Schemes:** Instructors are required to prepare detailed model answers and grading rubrics for all subjective questions before grading begins. Grading schemes are applied consistently across all student scripts.

2. **Post-Moderation and Double Marking:** A post-moderation process is applied to a random sample of graded papers, especially for final exams, to verify grading accuracy and fairness. Where needed, double marking is conducted, especially in cases of disputes or borderline grades.

3. **Grade Distribution Review:** Departments review grade distributions for all courses to detect any anomalies or inconsistencies through the grade approval form. Courses with unusually high failure or distinction rates are flagged for further review by the Quality Committee.

6.8.2 Use of Rubrics

Standardized rubrics are employed for evaluating projects, presentations, assignments, case studies and other non-exam assessments. Rubrics are shared with students in advance to increase transparency and guide expectations.

6.8.3 Data Documentation and Reporting

All exams, grading rubrics, samples of student work, and moderation records are compiled in the Course Portfolio. Assessment results are reported in the Course Report, including analysis of CLO achievement and improvement actions.

6.8.4 Continuous Improvement

Feedback from moderators, student evaluations, and course reports is used to enhance exam design and grading practices in future offerings. Periodic training workshops are conducted for faculty on exam standardization, rubric design, and assessment integrity.

6.8.5 Alignment and Documentation

Rubrics and continuous assessment tools are aligned with CLOs and are documented in the Course Specification and reflected in the Course Report. Faculty maintain records of formative assessment results and feedback provided, which are reviewed during course moderation and quality audits.

6.8.6 Student Feedback and Satisfaction Surveys

Student feedback plays a vital role in the continuous improvement of teaching, curriculum delivery, learning resources, and overall academic experience. The College of Engineering systematically collects and analyzes student satisfaction data to inform evidence-based decisions and uphold quality assurance in line with NCAAA requirements and institutional policies.

Types of Student Surveys

The following structured instruments are used regularly:

o **Course Evaluation Surveys**: Conducted at the end of each semester for every course. They evaluate teaching effectiveness, clarity of instruction, alignment with learning outcomes, use of instructional materials, and assessment fairness.

o **Exit Surveys**: Collected from graduating students to assess satisfaction with their academic experience, facilities, and personal development throughout the program.

o **Alumni and Employer Feedback**: Alumni surveys assess graduates' perception of how well the program prepared them for the workforce. Employer surveys evaluate graduate competencies and alignment with labor market needs.

6.8.7 Data Analysis and Reporting

Survey results are analyzed at both the course and program levels. Quantitative and qualitative data are compiled into summary reports that highlight:

- Overall satisfaction scores.

- Strengths and areas needing improvement.

Reports are shared with instructors, department heads, and quality committees.

6.8.8 Follow-up and Quality Enhancement

Based on the findings, instructors are encouraged to reflect on feedback in their Course Reports, noting actions taken or planned for improvement. Program-level feedback informs curriculum review, enhancement of support services, and strategic planning. Satisfaction survey outcomes are incorporated into the Annual Program Evaluation Report and Quality Loop Closure Reports to ensure that student voices contribute directly to institutional improvement.

6.9 Quality Cycle of the Learning Outcome

Learning Outcomes are assessed at the institutional, program, and course levels. The Teaching and Learning Quality Assurance and Improvement processes are based on a continuing annual cycle based on the principles of PIMRU ,

(Plan→ Implement→ Monitor →Review → Update), as shown in Figure 22 below.
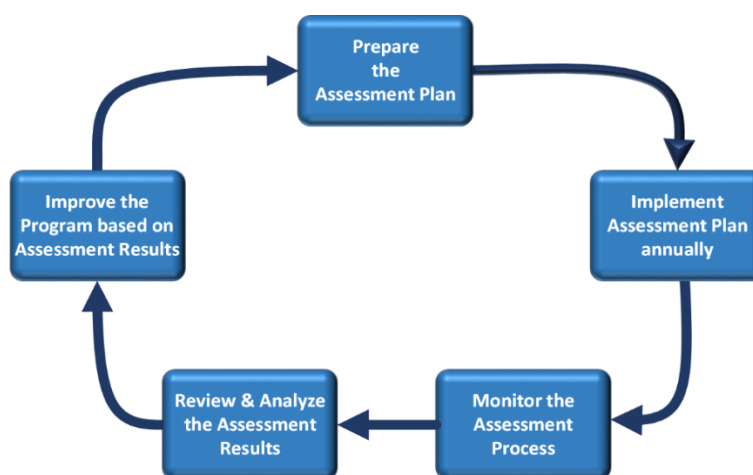
Figure 22*: PIMRU Model*

i. Plan: In this phase, the plan is created for academic process components to improve students' learning. Across the institution, the programs are required to prepare an Academic Assessment Plan (AP), which shows a roadmap of assessing the learning outcomes from one level to the other based on its applicability for each level mentioned below.

     a. Course Level Assessment
     b. Program Level Assessment
     c. Institutional Level Assessment

Assessment plans should include course level and program level assessments.

ii. Implement: Implement the assessment plan every regular semester. Conduct direct and indirect assessments.

iii. Monitor: Monitor the Assessment Process and Compute results using Direct and indirect assessment methods.

iv. Review: Analyze and discuss the Assessment Results.

v. Update/Improve: Analyze differences in expected improvements, actual improvements, and previous assessment results (if any). Based on this, determine where improvements will be made. Take action and ensure improvements are being implemented.

6.10 Quality Assurance Measurement Courses with Multiple Courses(if Applicable)

The following procedure is applied to all courses offered by the academic programs or service departments, which results in effective and smooth coordination between the course instructors in delivering courses across the multiple sections.

A) Planning phase:

This planning phase starts at the beginning of each semester and involves the following steps:

1) The course specification should be designed by the course coordinators in the spring semester to be used for the following academic year. The same course specification can be used for at least two terms unless there is proper justification for updating it.

2) The number of exams, home assignments, and the class tutorials in a course specification should be discussed with the course committees to see if a reasonable workload is given to students in each course. The workload should not exceed the learning hours of a course.

3) The assessment schema should be unified, allocating a reasonable proportion of the final grades to exams, class tutorials, discussions, home-based assessments like projects, homework assignments, and presentations.

4) The textbooks and their alternatives (if textbooks are not available) identified for a particular course should be used in all the course sections. The list of these textbooks should be submitted by each of the course coordinators to their respective curriculum committee and get approved by them.

5) The course coordinator should share the learning resources among other instructors teaching the same course. The best teaching practices should be shared as well.

6) The final exam date is recommended to be the same for courses having multiple sections offered preferably on both campuses.

7) The course coordinator chooses the assessment tools for assessing the course learning outcomes in all the course sections.

B) Implementation phase:

1) Faculty members teaching the same course should use a unified course specification, course syllabus, and textbook. *NOTE: No changes in the course specifications are made during the academic semester unless approved by the curriculum committee and the department.*

2) The course topics covered by the course instructor should be the same, which will be based on the approved course specification.

3) Each course coordinator will meet every month with the course instructor to follow up on the course coverage in terms of teaching and learning strategies based on meeting the outcomes of the respective courses.

4) The course coordinator should regularly share the learning resources among other course instructors. The best teaching practices should be shared as well.

C) Assessment phase:

1) The preparation of major and final exams should be done by all course instructors teaching the same course. They can divide the preparation of the exam by question, by topic, or by Course Learning Outcomes (CLO). The goal is to have unified major and final exams when possible.

2) In case the exam cannot be unified, several versions of the exam should be made, using the same assessment strategy.

3) Rubrics should be defined for each assessment.

4) The course coordinator/peer reviewer is responsible for approving the final version of the major and final exams along with their rubrics and answer keys.

5) The project work submitted by the students for some selected courses should be compared and evaluated by the other instructors for verification of the teaching standards.

D) Evaluation Phase

1) The post-exam phase should include the moderation of students' exams to ensure fair grading and adherence to the rubric/answer key designed for the respective major and final exams. A cross-grading scheme or a team grading scheme (*Refer to the [Moderation Policy](#)*) can be implemented mainly for the courses offered simultaneously on both campuses.

2) The course instructor is responsible for preparing the course learning outcome results using direct and indirect methods and analyzing each outcome to see if each of them has achieved the attainment level. Recommendations for continuous improvement in the achievement of each CLO are made accordingly. The course coordinator is required to prepare the aggregated CLO result based on all the course sections. Refer to the [Program Assessment Policy](#).

3) The course report should be submitted at the end of the term by every course instructor for his/her sections, in which the concerned course instructor will analyze the problems encountered while teaching the course during the term and possible compensating action. This will be later used by the course coordinator for preparing a combined course report. The combined course report will be discussed with all the course instructors and analysis is done at the course level. The priorities of improvement will be finalized for the course.

4) Grade Inflation / Deflation Report. The course instructor should prepare the Grade Inflation / Deflation report for his/her course section. However, the Course Coordinator will analyze the unusual distribution of grades at the course level. Grade Inflation / Deflation is not applicable to University Requirement courses.

A) The criteria for grade inflation are as follows:

For a course having more than 10 students, grade inflation is considered only if the number of students obtaining A+, A, and B+ is more than 50%.

For a course with 10 students or fewer, grade inflation is considered only if the number of students obtaining A+, A, and B+ is more than 70%.

B) The criteria for grade deflation are as follows:

For a course having more than 10 students, grade deflation is considered only if the number of students obtaining F, D, D+ is more than 50%.

For a course with 10 students or fewer, grade deflation is considered only if the number of students obtaining F, D is more than 70%.

The department chairs are responsible for monitoring the cases of grade inflation or deflation. Department chairs shall follow the following process:

a. Each instructor is asked to submit justification for all courses having grade inflation/deflation.

b. The department chair shall review all grade inflation /deflation reports (old reports and new reports) to identify the source of the case, which can be the faculty member, the course, students' behavior, etc. Based on the result of the review, the department chair should implement necessary interventional action.

c. At the end of each semester, the department chair shall prepare a grade inflation /deflation report and submit it to the College Dean. This justification or the action that was taken for improvement is also mentioned in the Annual Program report.

6.11 Electronic Maintenance of Course Portfolio

A well-organized course folder is very important in documenting the planning, process, and outcomes of a single course. The course instructor is required to archive the course syllabus, learning resources, assignments, assessments, grades, learning outcome Assessment Results at the end of every academic semester.

Course Portfolios: A course portfolio will be maintained for each of the taught courses. The course teacher will use the collected material to assess the achievement of course learning outcomes.

6.11.1 Course Portfolio Checklist

1) Course Syllabus

2) Samples of teaching materials: Course manual or notes, Lecture notes, Additions, and revisions, Support materials, Departmental resources, Expected format for assignments for current semester

3) Assessment: Assignments, Rubrics, Quizzes, Major Exams, Final Exam, and homework assignments (answer keys) for current semester

4) Samples of students' work (only 3 of each Assignment and assessment task for current semester=Best, Average, Lowest)

5) E-Register Grade Sheet (Grades and Statistics)

6) Assessment of Learning Outcomes:

7) CLO assessment,

8) Course Exit Survey and Results.

9) PLO report (depends on assessment cycle) for current semester

10) Course Report

11) LMS Documentation for current semester, Student Evaluations for the current semester etc.,

SECTION - VII
STUDENT ASSESSMENT AND EVALUATION PROCESS OF LEARNING OUTCOMES

7. ASSESSMENT PROCESS OF THE LEARNING OUTCOMES

7.1 Assessment Process in COE

Detailed Assessment Methods and Processes for Learning Outcomes

The College of Engineering (CoE) at Fahad Bin Sultan University employs a comprehensive assessment policy for student learning outcomes, aligning with NCAAA standards and ABET accreditation criteria. This policy is guided by principles of alignment with learning outcomes, variety and balance in methods, transparency and fairness, and continuous improvement.

7.1.1 Direct Assessment Methods

Direct assessment methods involve examining actual student work or performances to determine the extent to which students have achieved learning outcomes, providing tangible evidence of student learning.

Types of Direct Assessment Methods at CoE:

1. **Embedded Course Assessments:** These include specific assignments, exam questions, or projects within selected engineering courses.

2. **Exams and Quizzes:** Used to measure student knowledge and understanding, from basic recall to complex problem-solving in engineering contexts. Types include multiple-choice, short-answer, problem-solving, essay, and conceptual questions relevant to engineering principles.

3. **Projects and Assignments:** Provide opportunities for students to apply engineering knowledge and skills to realistic problems over an extended period, effective for assessing higher-order thinking, creativity, and knowledge integration. Types include design projects, research papers, case studies, problem sets, programming assignments, and simulation exercises specific to engineering disciplines.

4. **Laboratory Reports and Practical Assessments:** Evaluate students' ability to conduct experiments, analyze data, and draw conclusions from hands-on experiences in engineering laboratories. Components typically include an introduction, methodology, results, analysis, discussion, conclusion, and references.

5. **Capstone Projects:** These are culminating experiences that require engineering students to integrate and apply knowledge and skills acquired throughout their program, valuable for assessing program-level outcomes and readiness for professional engineering practice. Characteristics include being comprehensive, authentic, open-ended, team-based, multi-stage, and interdisciplinary.

6. **Portfolio Assessments:** Collections of student work from multiple engineering courses evaluated to assess development and achievement of outcomes over time.

7. **Performance-Based Assessments:** Include demonstrations of engineering skills, laboratory observations, field experiences, and internship evaluations, which are critical for practical engineering competency.

8. **Standardized Tests:** Such as Exit Exams, used to provide external validation of student achievement where applicable for engineering licensure or professional readiness.

Implementation of Direct Assessment:

1. **Planning:** Faculty identify Course Learning Outcomes (CLOs) to be assessed, map them to relevant ABET Student Outcomes, select appropriate assessment methods, develop instruments (e.g., exams, rubrics tailored for engineering), establish clear performance criteria, and create an assessment schedule.

2. **Administering:** Expectations and rubrics are clearly communicated to students, assessments are administered as planned, security is maintained, and timely feedback is provided.

3. **Analysis:** Data is collected and organized, achievement levels are calculated, strengths and weaknesses are identified, results are compared with targets, and trends are analyzed.

4. **Improvement:** Results are discussed with faculty, areas for improvement are identified, action plans are developed and implemented, the process is documented, and effectiveness is evaluated in subsequent semesters.

5. **Data Collection:** Specific questions or components of assignments are identified for assessment, clear marking criteria are created, consistent scoring methods are used, and assessment items are documented to correspond with CLOs. For large classes, a representative sample (minimum 40% or 10 students) may be used. Data is collected and organized using the university's learning management system, maintaining digital copies and standardized forms.

Use of Rubrics:

▪ Rubrics are scoring tools that explicitly describe performance expectations for assignments or projects, ensuring consistent evaluation and clear communication of expectations to students.

Types of Rubrics:

1. **Analytic Rubrics:** Break down assessment into specific criteria with detailed performance levels, ideal for complex engineering projects.

2. **Holistic Rubrics:** Provide an overall description of performance at each level.

3. **Single-Point Rubrics:** Describe only the proficient level, with space for concerns and excellence.

Components: Criteria (aligned with CLOs and ABET Student Outcomes), performance levels (e.g., excellent to unsatisfactory), descriptors (clear descriptions for each level), and scoring (point values or weights).

Rubrics are used for consistent grading of subjective questions in exams and for evaluating projects and assignments, aligning with CLOs and ABET Student Outcomes.

7.1.2 Indirect Assessment Methods

Indirect assessment methods gather information about student perceptions of their learning or factors contributing to learning, providing valuable complementary information to interpret direct assessment results and identify areas for improvement.

Types of Indirect Assessment Methods at CoE:

1. **Surveys:** Collect information on student perceptions, attitudes, and experiences within engineering programs.

2. **Course Evaluation Surveys:** Feedback on course content, teaching methods, and overall learning experience in engineering courses.

3. **CLO Self-Assessment Surveys:** Students rate their own achievement of course learning outcomes.

4. **Program Exit Surveys:** Feedback from graduating engineering students on their overall educational experience and perceived achievement of program outcomes.

5. **Alumni Surveys:** Information from engineering graduates on how well their education prepared them for professional practice.

6. **Employer Surveys:** Feedback from employers on the performance of CoE graduates in the engineering workplace.

7. **Interviews and Focus Groups:** Structured conversations with graduating engineering students (exit interviews) or small groups of students (focus groups) to gather in-depth feedback on their educational experience.

8. **Institutional Data:** Includes retention and graduation rates, time to degree completion, job placement rates in engineering fields, and graduate school acceptance rates.

9. **Advisory Board Feedback:** Input from industry representatives on the relevance and achievement of engineering program outcomes.

Implementation of Indirect Assessment:

Survey Administration: Standardized surveys developed by the Deanship of Quality and Academic Accreditation are used, administered at appropriate times (mid-semester, end of semester), ensuring anonymity and aiming for high response rates (minimum 70%).

o **Focus Groups and Interviews:** Structured protocols with specific questions are developed, diverse participants are selected, sessions are recorded with permission, and recordings are transcribed for analysis.

o **Employer and Alumni Feedback:** Standardized forms are used, feedback is collected regularly (annually for employers, every 2-3 years for alumni), and contact information databases are maintained.

7.1.3 Assessment Cycle and Data Management

FBSU has adopted a comprehensive approach to learning outcome assessment that aligns with accreditation requirements and supports continuous improvement, characterized by a continuous improvement approach and the PIMRU Model.

PIMRU Model (Plan → Implement → Monitor → Review → Update): This model provides a structured framework for continuous improvement in learning outcomes assessment within the CoE.

A. **Planning:** Faculty develop an Academic Assessment Plan (AP) specifying learning outcomes, assessment methods, performance criteria and targets, timelines, and responsibilities. Each academic program prepares an annual assessment plan, selecting a subset of PLOs for focused assessment each year.

B. **Implementing:** Faculty collect assessment data using specified methods, document the process, and ensure data integrity and security. Approved program assessment plans are executed using both direct and indirect methods.

C. **Monitoring:** Involves tracking the implementation of the assessment plan, ensuring activities are conducted as scheduled, and addressing any issues.

D. **Reviewing (Auditing):** Faculty analyze assessment data to determine achievement of learning outcomes, identify strengths and weaknesses, discuss results, and develop recommendations for improvement. The Program Assessment Committee (PAC) or Quality Committee (QC) reviews results and proposes recommendations.

E. **Updating (Closing the Loop):** Involves implementing improvements based on assessment results, documenting changes, evaluating effectiveness, and refining the process for the next cycle. This process typically spans 2 to 4 years to effectively close the loop on student achievement of PLOs.

Levels of Assessment: Assessment occurs at three interconnected levels within the CoE:

1. **Course-Level Assessment:** Focuses on Course Learning Outcomes (CLOs), conducted by individual faculty, providing immediate feedback and informing adjustments to teaching methods and content.

2. **Program-Level Assessment:** Focuses on Program Learning Outcomes (PLOs), coordinated by program leaders, evaluating curriculum effectiveness, identifying strengths and weaknesses, and informing curriculum revisions specific to engineering programs.

3. **Institutional-Level Assessment:** Focuses on Institutional Learning Outcomes (ILOs), coordinated by the Deanship of Quality and Academic Accreditation, evaluating university-wide learning goals, informing strategic planning, and providing evidence for institutional accreditation.

Assessment Cycle for PLOs:

▪ All academic programs are expected to participate in annual assessment activities, but not every PLO must be assessed each year.

▪ Programs should establish a systematic two- or four-year assessment cycle to ensure comprehensive evaluation of all PLOs over time.

▪ Programs with specialized international accreditation, such as those in engineering seeking ABET accreditation, may be required to assess all PLOs semi-annually or annually to meet specific professional standards.

▪ This staggered approach allows for thorough analysis, targeted improvements, and refinement of strategies before reassessing the same PLOs.

Data Management and Security:

▪ Assessment data is stored in secure, password-protected systems with backup copies, organized by course, semester, and academic year, and accessible by authorized personnel.

▪ Confidentiality is maintained by removing student identifying information, aggregating data, complying with privacy policies, and obtaining permissions for using student work.

- Data is retained for a minimum of six years (two international accreditation cycles), with archives of reports and improvement plans, and procedures for secure disposal.

Documentation Requirements:

1. **Course-Level:** Course syllabus (CLOs, mapping to Student Outcomes, assessment methods, schedule), assessment instruments (exams, rubrics), assessment results (summary, analysis, strengths/weaknesses), course assessment report (overview, results, recommendations, action plans), and evidence of improvement.

2. **Program-Level:** Program Assessment Plan (objectives, outcomes, curriculum map, methods, schedule), Annual Program Assessment Report (activities, analysis of outcomes, strengths/weaknesses, recommendations, action plans), Continuous Improvement Documentation (record of changes, evidence of effectiveness), and Advisory Board Meeting Minutes (feedback, recommendations, program responses).

3. Standardized templates are used for all documentation to ensure consistency and quality.

A complete assessment manual of the college of engineering can be accessed at:
https://fbsu.edu.sa/PDF/FBSU_Program_Assessment_Manual.pdf

7.2 Target benchmark level of Learning Outcomes

The targets are the expected level of aggregated student achievement, for each measurement method (direct and indirect). Targets are usually expressed in terms of the number or percentages. For example, a target might be expressed as at least 70% of the students will achieve a 3 or higher on each criterion of the rubric used to evaluate the research presentation.

7.3 Evaluation Process of Course Learning Outcomes

The Course Coordinators collects and analyzes the CLO assessment results (direct and indirect) at the end of every semester, for the respective courses. The improvement actions related to learning outcomes, curriculum, and course management are discussed with the course instructors and then submitted to the Curriculum Committee for approval. These approved improvement actions are then submitted to the department chairperson to be included in the decision-making process and continuous enhancement of the program.

The course assessment results are also recorded in the annual Assessment Report for monitoring and feedback at the program level.

The evaluation process or closing the loop of student achievement (or learning) of the program learning outcomes starts after the completion of the assessment cycle which usually takes 2-4 years to complete depending on the number of the program learning outcomes. Every academic program prepares an annual program assessment report which includes an analysis of each PLO assessed along with the recommendations for improvement actions. This is followed by a comprehensive report on the achievement of learning outcomes at the end of the assessment cycle.

Examples of improvement actions:
1. Change of CLOs
2. Change of teaching strategies
3. Change of assessment method
4. Change of course contents.
5. Adding a core course to strengthen the achievement of a PLO.

7.4 Process of Updating the Learning Outcomes

7.4.1 Course Learning Outcomes

A change in the course learning outcomes is considered as a major change in the curriculum. The course coordinator can submit a change request form to the curriculum committee at the end of the academic semester, stating the valid reason for changing the CLO along with the revised CLO-PLO mapping. The curriculum committee validates the request and then seeks approval of the Department.

7.4.2 Program Learning Outcomes

A change in the program learning outcomes is considered as a major change in the curriculum. The Curriculum Committee Chair can submit a change request form to the Department Council at the end of the assessment cycle, stating the valid reason for changing the PLO along with the revised CLO-PLO/Curriculum mapping. The Department Council committee validates the request from various perspectives and seeks approval from the College Council.

SECTION - VIII
FACULTY AND STAFF MANAGEMENT

8.1. Recruitment policy of Faculty Members

The process of recruitment at COE follows the policy of recruitment of FBSU that can be explored by the following link: https://fbsu.edu.sa/Bylaws/AD-100-Recruitment-Policy.pdf.

8.2. Orientation of New Faculty Members

New faculty members at COE undergo orientation based on the policy provided by FBSU, which can be explored through the following link: https: https://fbsu.edu.sa/Bylaws/AA-406-Faculty-Orientation-Policy.pdf.

8.3. Peer Review of Faculty Members

The process of evaluation of faculty members is driven by the policy of FBSU which can be explored through the following link: https://www.fbsu.edu.sa/Bylaws/Faculty-Evaluation-Policy.pdf .All faculty members at COE will undergo thorough evaluations by students, direct supervisors, department chairpersons, and peers, such as coordinators or course group supervisors. Faculty members will also complete the self-assessment form to provide additional insights into their teaching effectiveness, research contributions, and professional development. The primary responsibility for monitoring the quality of teaching will rest with the individual departments and will be communicated to the College Dean.

Peer Review Report

Instructor's Name:		Course:	
Term:		Year:	
Review Date:		Review Time:	

	5	4	3	2	1	NA	Comments
Mastery of the subject matter							
Effective use of delivery tools (PPT, multimedia, whiteboard, etc.)							
Class time management							
Teaching style inspire students							
Use of tone of voice							
Communicate with students							
Use of collaborative work							
Encourage students to ask questions and provide instant feedback							
Response to students' questions							
Use of relevant case studies							
Work relevant examples							
Relate material to current issues							
Quick review of previous lecture							
State objectives of current lecture							
Summarized what was covered							
Required textbook							
Took attendance							
Gave handouts							
Assigned homework							

5: Extremely Effective; 4: Highly Effective; 3: Somewhat Effective; 2: Least Effective; 1: Not Effective; NA: Not Applicable

Reviewers' summary
Best teaching practice:
Worst teaching practice:
Additional insights:
Overall assessment and comments:
Specific recommendations to the instructor:

Figure 23: Peer Review Form Template

8.4 Student Evaluation of Faculty Members

Formal student evaluations of faculty are conducted for every course at the end of each semester via the SIS system using the Course Evaluation Survey. These evaluations cover teaching delivery, feedback quality, professionalism, and interpersonal communication. The evaluation data will be analyzed by expert personnel to mitigate bias, enhance reliability and ensure validity. This data is shared with both the faculty member, the Department Chair and the College Dean.

Spring 2023-2024							
Course	Fundamental of Power Electronics	Instructor	عمار القحطاني	Section	30	Course Code	REE 310
الكلية	Engineering	Department	Renewable Energy Engineering	Response	100.00%	Average Program	4.15
The start of the course							
The course outline (including the knowledge and skills the course was designed to develop) was made clear to me.							4.45
The things I had to do to succeed in the course, including assessment tasks and criteria for assessment, were made clear to me.							4.18
Sources of help for me during the course including faculty office hours and reference material, were made clear to me.							4.27
What happened during the course							
The conduct of the course and the things I was asked to do were consistent with the course outline.							4.09
My instructor(s) were fully committed to the delivery of the course. (E.g. classes started on time, instructor always present, material well prepared, etc).							4.36
My instructor(s) had thorough knowledge of the content of the course.							4.64
My instructor(s) were available during office hours to help me.							4.45
My instructor(s) were enthusiastic about what they were teaching.							4.73
My instructor(s) cared about my progress and were helpful to me.							4.68
Course materials were of up to date and useful. (texts, handouts, references etc.)							4.23
The resources I needed in this course (textbooks, library, computers etc.) were available when I needed them.							4.18
In this course effective use was made of technology to support my learning.							4.50
In this course I was encouraged to ask questions and develop my own ideas.							4.27
In this course I was inspired to do my best work.							4.36
The things I had to do in this course (class activities, assignments, laboratories etc) were helpful for developing the knowledge and skills the course was intended to teach.							4.36
The amount of work I had to do in this course was reasonable for the credit hours allocated.							4.59
Marks for assignments and tests in this course were given to me within reasonable time.							3.95
Grading of my tests and assignments in this course was fair and reasonable.							4.59
The links between this course and other courses in my total program were made clear to me.							4.59

Figure 24: Sample Course Evaluation Student feedback form

8.5 Faculty Members Annual Appraisal Form

All faculty members at COE are evaluated according to the annual appraisal form provided by FBSU. The parameters are measured using the Likert Scale measuring from 1-least value till 4-maximum value. It consists of four sections, which are:

1. Section 1: Teaching Performance (Weight: 50%).

2. Section 2: Research Performance (Weight: 30%).

3. Section 3: Service and Community Engagement (Weight: 20%)

4. Section 4: Overall Performance Summary.

Figure 25 illustrates the first section of the annual appraisal form with corresponding weight.

Faculty Member Annual Appraisal Form

Department/College:_____

Academic Year_____ _____

Faculty Member Name: _____

Rank: _____ _____

Section 1: Teaching Performance (Weight: 50%)

Criterion	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
Course Delivery	Mastery of subject; clear, engaging delivery	Clear delivery; minor improvements needed	Basic clarity; delivery sometimes ineffective	Poor delivery; lacks clarity and engagement
Student Feedback (Survey Results)	Avg. $\geq$ 4.5/5	Avg. 4.0–4.49/5	Avg. 3.5–3.99/5	Avg. < 3.5/5
Course Materials and Organization	Innovative, well- structured, updated materials	Well-organized, mostly updated materials	Some outdated or disorganized materials	Poor or missing course organization
Assessment and Feedback to Students	Timely, clear, fair assessments; rich feedback	Timely and mostly clear assessments	Some delays or unclear feedback	Late, unclear, or unfair assessments
Student Support and Advising	Actively supports and advises students	Provides student support when requested	Limited student advising	Rarely available or supportive

Figure 25 *Section 1- Faculty Annual Appraisal Form.*

SECTION - IX
LEARNING RESOURCES AND INFRASTRUCTURE

9. THE LIBRARY

9.1 Overview – Library Resources and Hierarchical Structure

Library's operations are carried out in line with the vision and mission of COE. The Library functions as a resource center with quality collections, including print, electronic, and A/V materials. The Library supports learning by providing a study room to students who prefer to work together on collaborative assignments within the library.

The Library is open during working days from 8 am till 4 pm. Moreover, the Library users can gain access to the learning resources on and off the campus. Users can also access the library services via mobile, IPad and Laptops.

The Library is augmented with a bookstore corner where students can purchase textbooks at cost, in addition to providing copying, printing and scanning services.

The library includes study areas equipped with PCs and Wi-Fi services. Through the library webpage, one can use search engines to access a number of quality information sources electronically in a full-text and full-image format, and popular and scholarly journals, encyclopedias and books held by the Saudi Digital library that offer hundreds of thousands of digital titles in all disciplines.

The Library presents a host of information about library policies, regulations, resources, research tools, and the like for the purpose of provision of the best possible resources and services to FBSU community.

A) Mission: To support FBSU's academic programs by providing and continually enhancing critical information resources, engaging spaces, innovative technologies, and valuable services

B) Vision: To be partners in scholarly and creative achievements by bringing together diverse individuals, communities, and information to advance research, education, and creativity.

More details can be found in the manual of the FBSU library: https://fbsu.edu.sa/PDF/Manual.pdf.

9.1.1 Hierarchical Structure of Library

The Library is organized in a hierarchy with a Director, librarians, and bookstore keepers. Library staff are assigned various duties and report to the director of the library daily. The Director of the Library regularly reports to the Assistant to the President for Academic Affairs.

This comprehensive approach ensures that FBSU's library and electronic resources effectively support the university's academic mission and contribute to the continuous improvement of educational quality.

Figure 26: *FBSU Library.*

9.2 Quality Cycle adopted by Library

In this section, more details are presented about essential measures practiced at the Library to ensure the quality of services for faculty, students, and staff. To satisfy community needs for quality sources and services, the Library has implemented the quality assurance method, PDCA, according to the following phases:

9.2.1 Phase I - Planning:

The planning of services by the Library involves:

a. Alignment with NCAAA standards

b. Risk Management

c. Development of Policies and Procedures

d. Development of a 5-year strategic plan. Development of annual action plan of the Library to accomplish the strategic plan

e. Performance criteria for evaluation

f. Documentation

9.2.1.1 Alignment with NCAAA standards

The Library adopts the following ETEC-NCAAA standards at the institutional/program level to ensure adherence to all quality cycle phases in providing services to the FBSU community.

Learning resources for teaching, learning and research (Institutional)

Learning resources for study and research (Program).

9.2.1.2 Risk Management

The Library strives to provide a safe learning environment for the students, faculty, and staff. For example, fire safety is considered as paramount important. The Library makes sure that fire extinguishers function and emergency exits work as well. Moreover, surveillance cameras have been installed within and at the entrance of the library to monitor activities and safeguard library property. Facemasks and hand sanitizers were provided to all the users to mitigate the spread of Covid-19 during the pandemics.

9.2.1.3 Policies

The following policies have will be developed by the Library which are required to be followed by the library users and staff.

1. Access & Use Policy: is to provide the guidelines on access to information resources at the Library.

2. Cataloguing & Classification Policy: is to provide a framework to maintain a uniform and appropriate standard of cataloging and classification.

3. Circulation Policy: to provide guidelines about standardized and efficient circulation service.

4. Collection Development and Acquisition Policy: is to provide Library staff, and FBSU community with clear procedures of collection development and acquisition.

5. Computers and Internet Use Policy: is to provide guidelines for using computers and equipment at the Central Library.

6. Document Delivery and Interlibrary Loan Policy: to help obtain materials unavailable via Central Library.

7. Food & Drink Policy: to maintain the cleanliness in the library and provide an attractive and conducive environment for study and research.

8. Reference Service Policy: to offer a uniform standard of reference service at the Library.

9. Noise Policy: to maintain a conducive and welcoming environment for reading and learning at the library.

9.2.1.4   5-Year Strategic and Annual Action Plan:

The Library's strategy and policies are aligned with the university strategy, policy, and governance for provision of learning resources and facilities.

The annual action plans are prepared to achieve the goals and objectives of the Library strategy.

9.2.1.5 Resources:

In alignment with the 5-Year Strategic Plan, the Library offers information resources (books, journals, reports, manuals, handbooks, electronic resources, etc.) for the FBSU community. The information resources are acquired based on recommendations of faculty and students. The Library coordinates with academic departments to provide the recommended textbooks. Equipment and furniture are purchased according to the library policy and feedback of the library users.

The Library also collaborates with the human resources department regarding recruiting library staff commensurate with their educational qualifications and professional experience.

9.2.1.6 Key Performance Indicators:

The following NCAAA Key performance indicators are used for measuring the objectives related to Learning Resources.

KPI-I-07: users' satisfaction with learning resources on a five-point scale of annual survey in terms of:

- adequacy and diversity (references, journals, databases… etc.)

- support services for users to access learning resources

KPI-P-17: users' satisfaction with adequacy and diversity of learning resources (references, journals, databases… etc.) on a five-point scale of annual survey

9.2.1.7 Performance Criteria for Evaluation

To ensure the quality services provided by the Library staff, FBSU management conducts an annual evaluation for all the Library administrative staff.

9.2.1.8 Documentation:

To disseminate information and to keep users aware of the services and facilities of the library, the Library updates information on learning resources via the library website. The Library revises the policies regularly, reports to the higher management regarding library vital data, and maintains the archived documents concerning the stakeholders involved.

9.2.2 Phase II- DO / Implement

The library staff provides in-person and online workshops on library resources and services to FBSU faculty, students, and staff all year round. Following is a brief description of the provided services.

9.2.2.1 Circulation Service

Circulation Services includes borrowing and returning library materials. Circulating materials are checked out or in via self-check stations inside the library. Reference and reserve materials can also be borrowed from the library for a limited time.

9.2.2.2 Current Awareness Services

The Library regularly informs users of the new arrivals of reference, textbook, databases and so forth by the library website, social media, and displays of new arrivals to keep users abreast of the important development and acquisitions at the Library.

9.2.2.3 Reference Service

The Librarians provide ready reference and in-depth service in response to requests for information demands. Such a service is accessible in person, through emails, and by telephone.

9.2.2.4 Document Delivery Services

Document Delivery service provides the users with books, research papers and items unavailable through FBSU Library from local libraries, if possible.

9.2.2.5 In-Library Use

Non-circulating materials like reference works, periodicals and reports are only available for viewing inside the library. Moreover, these special collections may be checked out with restrictions and limits.

9.2.2.6 Textbook Service

The Library, in coordination with the academic departments, ensures timely delivery of the needed textbooks for instruction and study. Upon the request of academic departments and colleges, copies of text books and references are made available in the library bookshelf. The Library staff offer textbook sale services to students in the Bookstore corner of the library.

9.2.3 Phase III - CHECK (Monitor & Review)

9.2.3.1 Monitor

The Library's director communicates with the stakeholders regarding library services and resources during the academic year. The library staff, meanwhile, provide data about library resources and services monthly. Library policies, procedures, and practices are also monitored and evaluated through surveys, by KPIs, and related standards.

9.2.3.2 Review

The Library reviews and revises the learning resources based on library survey, feedback from QAAC and stats of the Center for Statistics and Information (CSI). Annual report about the Library affairs is submitted to the office of President's Assistant for Academic Affairs.

9.2.4 Phase IV - ACT / Update

The Library takes appropriate actions and steps to improve the quality of the library collections and services according to users' recommendations and feedback. The adopted actions are exemplified with annual and 5-year action plans for the library operations.

It is worth mentioning that the COE complies with an official template provided by FBSU called "Infrastructure Quality Assurance (QA) Checklist" to be used by the quality assurance committee. Figure 27 shows the template.

Infrastructure Quality Assurance (QA) Checklist

(To be filled by departments/facilities managers annually)

General Information

- ☐ Building/Facility Name: _____
- ☐ Department/College: _____
- ☐ Date of Review: _____
- ☐ Reviewer Name: _____

Classrooms

Item	Yes	No	Comments/Issues
Adequate seating and desks available for expected capacity?	☐	☐	
Functional air conditioning/heating?	☐	☐	
Functional lighting adequate for reading/writing?	☐	☐	
Working projector/smartboard/computer equipment?	☐	☐	
Cleanliness and maintenance satisfactory?	☐	☐	
Emergency exits clearly marked and accessible?	☐	☐	

Laboratories

Item	Yes	No	Comments/Issues
Lab equipment functional and regularly maintained?	☐	☐	
Safety equipment available (eyewash stations, fire extinguishers, etc.)?	☐	☐	
Proper ventilation systems working?	☐	☐	
Clear safety signage and operating instructions displayed?	☐	☐	
Stock of essential lab materials and consumables adequate?	☐	☐	
Hazardous materials properly stored and labeled?	☐	☐	

IT and Physical Assets

Item	Yes	No	Comments/Issues
Computers and printers operational?	☐	☐	
Software licenses updated?	☐	☐	
Wi-Fi coverage reliable across all teaching spaces?	☐	☐	
Backup power systems (generators/UPS) functional?	☐	☐	

General Facilities

Item	Yes	No	Comments/Issues
Accessible facilities for disabled persons available?	☐	☐	
Restrooms clean, functional, and sufficient?	☐	☐	
Security measures adequate (cameras, emergency alarms)?	☐	☐	

Review Process Steps

Step	Description
1. Self-Assessment	Each department completes the Infrastructure QA Checklist for their labs, classrooms, and local facilities.
2. Central Audit	Facilities Management, Library Administration, and IT Office conduct their technical inspections and evaluations.
3. Consolidation	University QA Office consolidates self-assessments and central audit findings into a master Infrastructure Audit Report.
4. Reporting and Approval	Report presented to Institutional Academic and Facilities Committee and University Council.
5. Action Planning	Required improvements prioritized, budgets proposed, and timelines set.
6. Monitoring	Improvements are tracked during the following semester, with a mid-year progress report.

Documentation and Evidence

- Completed Infrastructure QA Checklists
- Annual Consolidated Infrastructure Audit Report

Figure 27: Infrastructure Quality Assurance (QA) Checklist.

9.3 Student Support Services

FBSU is committed to providing a holistic student experience by offering a range of support services that cater to the academic, personal, and professional development needs of its students. These services are designed to foster a supportive learning environment, enhance student engagement, and promote overall well-being.

9.3.1 Administrative Services

1. Student Petition

- Allows students to formally request exceptions or appeals regarding academic regulations (e.g., withdrawal, grade review, policy exceptions).

- Reviewed by relevant academic departments and administrative offices based on clear guidelines and documentation.

2. University Catalog

- Serves as the official academic reference document for all programs, including program structures, course descriptions, academic regulations, and graduation requirements.

- Available online and updated annually to reflect curricular revisions and policy changes.

3. Student Orientation Guide

- A comprehensive guide for new students to familiarize them with the university's academic system, policies, facilities, and support services.

- Distributed during orientation sessions and accessible via the university website.

4. Student Clearance Application

- A streamlined online process is required before graduation or withdrawal from the university.

- Ensures that students have fulfilled financial, academic, and administrative obligations across departments (library, IT, finance, etc.).

5. Online Forms

- A centralized portal for submitting essential student requests such as registration issues, ID renewal, transcript requests, and academic verifications.

- Designed to enhance efficiency, transparency, and digital record-keeping.

9.3.2) Academic Support Services

- Academic Advising: FBSU offers personalized academic advising to assist students in course selection, degree planning, and navigating academic policies. Advisors work closely with students to ensure timely progress toward graduation.

- Tutoring and Learning Resources: The university provides tutoring services and access to learning resources to help students strengthen their understanding of course material and improve academic performance.

- Library Services: The university library offers a vast collection of physical and electronic resources, including books, journals, and databases, to support research and learning. Students have access to study spaces and assistance from library staff.

SECTION – X
COMMUNITY ENGAGEMENT

10.1 Community Service Policy and Objectives

The College of Engineering at Fahad Bin Sultan University recognizes community service as an essential pillar of its mission, alongside teaching and research. It follows the community service provided by FBSU: https://fbsu.edu.sa/Bylaws/Community-Service-Policy.pdf . Through structured policies and targeted initiatives, the College aims to contribute to the development of society by leveraging its expertise in engineering innovation and technical solutions for community development.Pa The community service strategy aligns with national development priorities and the university's commitment to social responsibility.

10.1.1 Policy Statement

Community service in the College of Engineering is guided by the following principles:

5. **Engagement**: Faculty, staff, and students are encouraged to actively participate in initiatives that benefit local and regional communities.

6. **Relevance**: Activities are grounded in the college's disciplinary strengths, particularly in students' business activities, Saudi vision 2030 aligned business students' projects, etc.

7. **Integration**: Community service is integrated into teaching, student activities, and research where possible, promoting civic responsibility and practical learning.

10.1.2 Objectives

COE aims to achieve the following community service objectives:

1. **Enhance Student Civic Engagement**: Involve students in community-based projects and volunteering as part of extracurricular activities or capstone projects, fostering a sense of social responsibility.

2. **Strengthen Engineering industry and Community Partnerships**: Build mutually beneficial partnerships with local businesses and institutions to share knowledge and expertise through workshops, mentoring, and joint initiatives.

3. **Encourage Faculty-Led Outreach**: Empower faculty members to initiate and lead community-focused activities such as public lectures, provide consultations to corporate business issues and problems.

4. **Contribute to National Development Goals:** Align community service projects with Saudi Vision 2030.

Figure 28*: Renewable Energy Engineering Activities organized by COE*

10.1.3 Implementation and Monitoring

The Student Affairs Committee oversees the planning, implementation, and documentation of community service activities. Each department submits an annual community service plan and a report on activities, participation, and impact. Outcomes are evaluated based on defined Key Performance Indicators (KPIs), such as:

- Several community service activities.

- Faculty and student participation rates.

- Beneficiaries reached.

- Stakeholder feedback and impact assessments.

10.2 Projects and Partnerships

The College of Engineering at Fahad Bin Sultan University actively fosters projects and partnerships as part of its commitment to social responsibility, innovation, and community engagement. These collaborations leverage the College's academic and business expertise to address real-world challenges, support local development, and contribute to national transformation agendas, including Saudi Vision 2030.

10.2.1 Community-Based Projects

The College encourages the initiation and implementation of community-focused projects that apply technical expertise to solve entrepreneurial problems in society.

10. 2.2 Capstone and Senior Projects with Community Impact:

Final year students are encouraged to select project topics that address local community needs or benefit public and nonprofit sectors. These projects are supervised by faculty and may involve collaboration with external stakeholders.

Figure 29 : Renewable Energy Engineering Activities organized by COE

Figure 30 : Electrical Engineering Activities organized by COE

Figure 31: Electrical Engineering Club Orientation Day for New Students

Figure 32 *: Electrical Engineering Activities organized by COE*

Figure 33: *Mechanical Engineering Participation on the World Civil Defense Day*

SECTION – XI
REVIEW AND AMENDMENT OF QA MANUAL

11.1 Frequency and Responsibility of Review

The QA Manual should be reviewed periodically to ensure its content remains accurate, relevant, and aligned with current engineering industry standards, regulatory requirements, and organizational processes.

A) Frequency:

- Annual Review (Mandatory): A full review should be conducted at least once a year to assess overall compliance and effectiveness.

- Trigger-Based Review: Additional reviews should be performed when:

  a) New regulations or standards are introduced.

  b) Major process changes occur within the organization.

  c) Significant non-conformities or audit findings are identified.

  d) Feedback from QA team members or stakeholders suggests updates are needed.

B) Responsibility:

- QA Committee Chair: Oversees the review process, ensures updates are implemented, and approves final changes.

- QA Team Members: Provide input based on their experience and suggest improvements.

- Cross-Functional Teams (if applicable): Input from other departments (e.g., Regulatory, Operations) may be required for alignment.

11.2 Version Control and Update Log

A structured version control system and update log must be maintained to track changes, ensure traceability, and prevent confusion over document revisions.

A) Version Control:

- Follow a standardized numbering system (e.g., v1.0, v1.1, v2.0).

- Major version (vX.0): Significant changes (e.g., new sections, major policy updates).

- Minor version (vX.Y): Minor updates (e.g., clarifications, typo corrections).

- Ensure only the latest version is accessible to users (obsolete versions should be archived).

B) Update Log:
- Maintain a change history table at the beginning or end of the document, including:
1. Version Number.
2. Date of Update.
3. Description of Changes (e.g., "Section 4.3 revised for new regulatory requirements").
4. Approved By (Name/Title).

REFERENCES

1. Program Development Policy: https://fbsu.edu.sa/Bylaws/AA-424-New-Program-Design-Policy.pdf

2. NQF and NCAAA: https://www.etec.gov.sa/en/ncaaa

3. CLOs Development Policy: https://fbsu.edu.sa/Bylaws/AA-409-CLOs-Development-Policy.pdf

4. NCAAA Documents: https://etec.gov.sa/en/service/accreditation/servicedocuments

5. PLOs Procedure: https://fbsu.edu.sa/Bylaws/AA-408-P01-PLO-Procedure.pdf

6. Research:https://fbsu.edu.sa/PDF/Scientific_Research_Publication_Incentives_Policy.pdf

7. Funding Policy: https://fbsu.edu.sa/Bylaws/SR-400-Research-Project-Funding-Policy.pdf

8. Recruitment Policy: https://fbsu.edu.sa/Bylaws/AD-100-Recruitment-Policy.pdf

9. Orientation Policy: https://fbsu.edu.sa/Bylaws/AA-406-Faculty-Orientation-Policy.pdf

10. Peer Review: https://www.fbsu.edu.sa/Bylaws/Faculty-Evaluation-Policy.pdf

11. Exam Policy: https://fbsu.edu.sa/Bylaws/AA-108-Exams-and-Assessments-Policy.pdf

12. Community Service Policy: https://fbsu.edu.sa/Bylaws/Community-Service-Policy.pdf

13. Library: https://fbsu.edu.sa/PDF/Manual.pdf

14. FBSU Assessment Handbook

15. FBSU KPI Framework

16. FBSU Catalogue