

Quality Assurance System Manual
Master of Science in Clinical
Laboratory Sciences
Department of Medical Laboratory Sciences
College of Applied Medical Sciences
Majmaah University, Al Majmaah, Saudi Arabia



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#### **Abbreviations**

APR - Annual Program Report

CR - Course Report

CS - Course Specification

FR - Field Experience Report

FS - Field Experience Specification

KPI - Key Performance Indicator

PS - Program Specification

SSRP - Self-Study Report of the Program

AAS - Academic Advising Survey

PES - Program Evaluation Survey

POES - Program Outcome Evaluation Survey

SES - Students Evaluation Survey

FES - Field Experience Survey

DAS - Direct Assessment Sheet

SES - Self Evaluation Scales of the Program



#### **PART 1 - INTRODUCTION**

#### 1. Definition of Quality Assurance

The main internal accountability system in an organisation is quality assurance, which mainly depends on the dedication and cooperation of all personnel involved in management, instruction, and administration. The National Commission for Academic Accreditation & Evaluation (NCAAA) has established procedures and standards with the intention that programmes will implement a system of responsibility and take necessary measures to guarantee the achievement of high quality standards. The purpose of this guidebook is to assist and direct those procedures. One cannot simply assume that excellence can be reached because of the significance of the higher education system for students, their families, and the larger community. To ensure that everyone is assured that high standards of quality are being achieved, quality needs to be confirmed by independent mechanisms. This confirmation is provided by the NCAAA accrediting procedures for postsecondary educational institutions and programmes.

#### 2. The Significance of Quality Assurance

Aiming for excellence and transparency, quality assurance is a framework as well as a process. The method aims to guarantee excellence in achieving the program's vision and mission, which will subsequently result in programme performance that is in line with its goals. All programmatic operations, including academics, students, support services, physical plant (i.e., buildings, classroom environment), research, and services to the local and regional community, should be operating at maximum capacity. This is the main objective of quality assurance. With ongoing assessment to ensure excellent quality in every aspect, the programme will be in a good position to adjust to changes and give students the best possible education.



#### 3. Relationship of Quality Assurance to Accreditation

The technique of continuously assessing results and guaranteeing excellence in all scholarly pursuits is known as quality assurance. When this kind of procedure is carried out correctly, programme activities will continuously modify and adjust to the demands of society and the environment. The primary basis for accreditation is the evaluation conducted at a designated time, which emphasises programming quality and results that show performance in line with purpose. Therefore, one may argue that quality assurance is a requirement for accreditation.

At the institutional or programmatic level, the accreditation process entails evaluation by an outside organisation (like NAACLS) or an internal Saudi Arabian agency (like NCAAA) using a set of established standards. Accreditation is given if the requirements are satisfied. As part of the institution's continuous and long-term performance improvement, it is imperative to uphold the quality standards that accreditation signifies, indicating that the school and its programmes meet worldwide standards. Therefore, it is unlikely that accreditation may be fully awarded absent proof of additional actions taken to uphold the efficacy and calibre of its programmes through ongoing review and assessment.

#### 4. The Quality Assurance Framework of Higher Education in Saudi Arabia

The technique of continuously assessing results and guaranteeing excellence in all scholarly pursuits is known as quality assurance. When this kind of procedure is carried out correctly, programme activities will continuously modify and adjust to the demands of society and the environment. The primary basis for accreditation is the evaluation conducted at a designated time, which emphasises programming quality and results that show performance in line with purpose. Therefore, one may argue that quality assurance is a requirement for accreditation.

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school and its programmes meet worldwide standards. Therefore, it is unlikely that accreditation may be fully awarded absent proof of additional actions taken to uphold the efficacy and calibre of its programmes through ongoing review and assessment.

#### 5. National Commission for Academic Accreditation and Assessment (NCAAA)

The National Commission for Academic Accreditation & Evaluation (NCAAA) has been established with responsibility for determining standards and criteria for academic accreditation and assessment and for accrediting postsecondary institutions and the programs they offer. The Commission is committed to a strategy of encouraging, supporting, and evaluating the quality assurance processes of postsecondary institutions to ensure that quality of learning and management of institutions are equivalent to the highest international standards. The six broad standards are applicable to both institutions and Programs.

Achieving accreditation has become a crucial goal for all academic and professional communities to strive for in order to enhance educational policies and experiences, hence boosting the quality of education. Ensuring the quality of both the educational environment and the outcomes is a major difficulty for modern educational institutions in addition to just providing instruction. The Education Evaluation Commission was approved on 7/2/1438 AH by the Council of Ministers Resolution No. 94, which sanctioned certain organisational arrangements with the aim of improving the quality and adequacy as well as contributing to the national economy and development. According to the statement, the commission is the qualified body in the Kingdom with the authority to evaluate and accredit programmes and institutions of higher learning.

One of the centres under the Commission's supervision, the National Centre for Academic Accreditation and Evaluation, is a continuation of the National Commission for Academic Accreditation and Assessment (NCAAA), which was founded by Royal Decree No. 7/B/ 6024 dated 9/2 / 1424H. The NCAAA, a separate legal organisation with administrative and financial governance, is in charge of academic accreditation and quality control for postsecondary education in both public and private institutions and programmes.



# 6. National Qualifications Framework for Higher Education in Kingdom of Saudi Arabia (NQF)

The Kingdom of Saudi Arabia has an accreditation and quality assurance system in place to make sure that higher education meets rigorous international standards and is generally acknowledged as such by professional and academic communities worldwide.

Within this framework, the National Qualifications Framework is a crucial component. Its goals are to guarantee uniformity in student learning outcomes standards across the Kingdom, irrespective of the institution attended, and to demonstrate how these criteria align with those for comparable prizes given by international higher education institutions. For external reviewers engaged in programme accreditation procedures and institutional reviews, as well as for institutions in their planning and self-review processes, the Framework assists in offering relevant points of comparison in academic standards.

# 7. Principal Elements in the Qualifications Framework: The principal elements in theframework are:

- Domains of Learning
- Teaching strategies
- Assessment methods



### Programs offered by the Department

# Department of Medical Laboratory Sciences (MDL)





Bachelor of Medical Laboratory Sciences (BMDL)

Masters in Clinical Laboratory Sciences (MCLS)

#### A. Vision, Mission and Goals



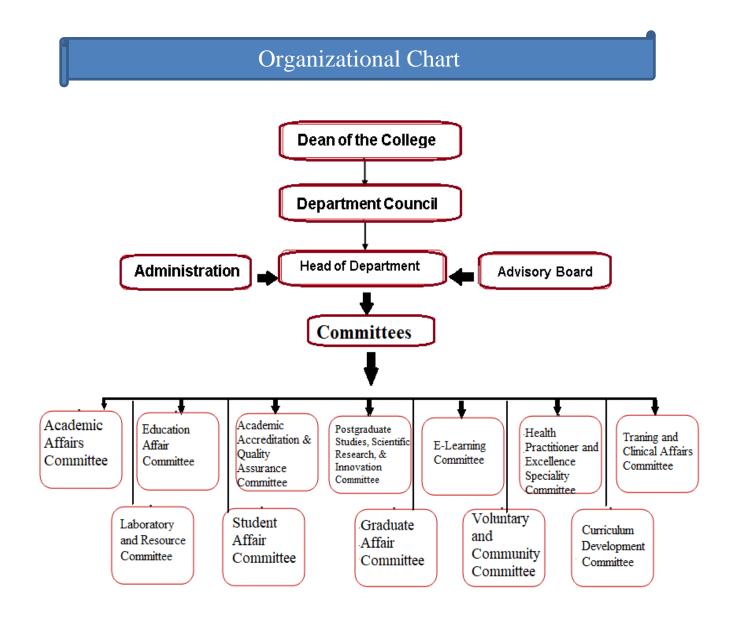
Excellency in education, research and community service in the field of clinical laboratory sciences.



Qualifying outstanding cadres scientifically, practically and ethically in the field of medical laboratories to provide health and research services for the community through an appropriate academic environment.



- 1. Professional and highly skillful graduates in the field of medical laboratory sciences.
- 2. Life-long learning and scientific research, ethics and humane aspects of clinical laboratory practices.
- 3. Develop the leadership, communication skills and effectiveness work in team.



### Tasks of the Department Committees

#### 1. Department Council

- 1. Overseeing the execution of the operational strategies for the diverse undertakings within the department.
- 2. Proceed with the fulfillment of all necessary academic accreditation prerequisites.
- 3. Establishing and upholding the department and programme manuals.
- 4. The department convenes a weekly meeting to engage in discussions pertaining to the reports generated by the quality management system.
- 5. Maintaining continuous interaction and cooperation with the Vice Dean of Development and Quality, while also delivering regular reports to them.
- 6. The department's vision, mission, and goals should be clearly defined and subject to periodic evaluation.
- 7. Monitor the progress of the department's action plan.
- 8. The process involves identifying the strengths and weaknesses of the many activities within the programme and developing appropriate plans to capitalise on or address them.
- 9. We have been looking forward to the future prospects of the department.
- 10. Enhance the operational involvement of the advisory committee within the department.
- 11. The task at hand involves the identification and subsequent implementation of training programmes aimed at enhancing the teaching, research, and technical proficiencies of faculty members.

#### 2. Quality Assurance and Academic Accreditation Committee:

1. Promoting a culture of quality among faculty members, department personnel, and students.

- 2. The task includes the creation, management, and monitoring of quality control processes within the department.
- 3. The task involves the preparation, monitoring, distribution, collection, and analysis of all five questionnaires administered by the National Commission for Academic Evaluation and Accreditation.
- 4. The process involves the identification and selection of performance indicators for the programme, followed by benchmarking against established standards. Subsequently, an analysis is conducted to evaluate the program's performance, and improvement plans are developed based on the findings.
- 5. The first step is to choose an independent auditor's report and subsequently analyse it. Following this, improvement strategies should be formulated based on the recommendations provided by the auditor.
- 6. Monitor the progress of contemporary advancements in methods, methodology, and pedagogical approaches.
- 7. The task involves the preparation and revision of reports pertaining to the Program's Description, course specifications, and Courses Reports. These reports are compiled from College members and subsequently stored electronically. They are then organised and sorted into their respective files.
- 8. The task at hand involves the arrangement, supervision, and maintenance of programme documentation inside the academic facility, with the aim of ensuring that they are readily prepared and organised for the impending visit of external auditors during their surveillance stopover.
- 9. It is imperative to ensure the production of duplicate copies of student examinations and their corresponding answer sheets for all courses within the programme on a semester basis.
- 10. Regularly maintaining and modifying all accreditation documents to ensure preparedness for unanticipated audits and authorised individuals.
- 11. Regularly arranging, compiling, and submitting periodic reports of the Committee's meetings, as well as archiving these reports in the program's academic space.

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- 12. The task of overseeing and preparing the Self-study report (SSR) with the aim of obtaining or updating national and international accreditations.
- 13. The arbitration of study plans by both internal and external entities is crucial in guaranteeing access to an academic excellence plan, with a particular focus on adhering to the "National Qualifications Framework".
- 14. It is required to regularly submit reports on the scientific programmes to the department council.
- 15. The process of developing the organisational structure, job descriptions, and tasks for each unit inside the organisation.
- 16. The task at hand involves overseeing the execution of the administrative quality system and identifying and resolving any deficiencies that hinder its successful implementation.
- 17. The department is now engaged in the formulation of strategies aimed at enhancing and advancing the quality management system.
- 18. The focus is on the pursuit and implementation of the objectives and policies related to administrative quality.
- 19. Proposing strategies to enhance financial and administrative performance.
- 20. The assessment of beneficiary satisfaction (both internal and external) regarding the services rendered.
- 21. It is imperative to ensure the provision of essential facilities required for the successful implementation of the system.
- 22. In order to effectively address and resolve issues pertaining to employees, it is necessary to engage in the process of identification, analysis, and problem-solving.
- 23. The analysis and treatment of complaints from beneficiaries involves the implementation of appropriate remedial and preventive measures.

#### 3. Student Affairs Committee

- 1. Develop a comprehensive student guidance programme and ensure its annual revision.
- 2. Promoting the recognition and significance of academic, professional, psychological, and social accreditation.
- 3. A key factor to consider is the need to enhance students' understanding and knowledge of the many support services and activities offered by the college and university. Additionally, it is crucial to emphasise the importance of actively engaging in these services and activities and maintaining continuous involvement.
- 4. One of the responsibilities of an academic professional is to receive and address students' requests or concerns, actively working towards finding solutions and resolving any issues that may arise.
- 5. Create proactive measures with the goal of protecting pupils from potential vulnerabilities.
- 6. This study aims to examine the circumstances of students who have defaulted or have low rates, and to develop academic programmes that can provide support to students who are not doing well.
- 7. Continuation of extracurricular activities.

#### 4. Academic Affairs Committee

- 1. The committee prioritise the development of study timetables in order to ensure timely completion.
- 2. In order to ensure compliance with college regulations, it is imperative to align departmental commitments with the design of the study timetable.
- 3. Undertake the necessary preparations and conduct a comprehensive evaluation of the instructional workload assigned to faculty members.
- 4. The subsequent allocation of courses within the respective departments to their designated venues is being pursued.

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- 5. The adequacy of the student enrolment in each part is being assessed in relation to the designated class capacity for the course.
- 6. Conduct a thorough review of the activities undertaken by the examination committees.
- 7. The results from the faculty of the courses should be received prior to monitoring in order to facilitate the adoption process.

#### 5. Curriculum Development Committee

- 1. One of the key objectives is to formulate strategies, curriculum, and scientific curricula that align with the societal demands and labour market requirements.
- 2. The objective is to discern and execute training initiatives that foster the enhancement of pedagogical, scholarly, and technical proficiencies among faculty members.
- 3. Determine the applicability of courses for practical life.
- 4. It is required to regularly present reports on the curricula and scientific programmes to the department council.
- 5. Presenting effective trans disciplinary programmes.
- The planning and execution of workshops for prospective or novel programmes within the department.
- 7. Subsequent to the initial assessment, it is vital to revise and enhance the scientific sources utilised in making informed decisions.
- 8. One of the objectives is to include and merge electronic courses and digital content into the curriculum across all academic levels within the department.
- 9. The dedication to utilising the Blackboard system as the primary platform for disseminating electronic course materials.
- 10. The identification of suitable training requirements for faculty members and students to

effectively implement e-learning.

- 11. Overseeing the management of the department's website.
- 12. There is a need to encourage faculty members to regularly maintain their electronic pages on the department's website, as well as to enhance the development of their educational materials and scientific output.

#### 6. Human Resources & Post Graduate Education Committee

- One of the key tasks is to create a comprehensive database of departmental graduates and ensure its regular updates.
- 2. The process involves gathering personal information, such as contact details, of students who are anticipated to complete their academic studies.
- 3. The objective is to attract graduates who possess the necessary qualifications to pursue further academic pursuits.
- 4. Implementation of faculty members' subsequent promotional endeavours.
- 5. The process involves the collection, tabulation, and documentation of employer data, including contact information. The objective is to investigate potential collaboration opportunities with firms for the purpose of recruiting graduates and establishing mutually beneficial partnerships.
- 6. Design communication initiatives, including various mediums including electronic platforms, with the aim of enhancing the connection between graduate students and the job market.
- 7. The present study aims to conduct a survey to gather the perspectives of employed graduates in both public and private sectors, who have transitioned from college. The survey will involve the necessary steps of questionnaire creation, dissemination, and subsequent collecting of responses.
- 8. Identify a viable mechanism for facilitating the provision of employment opportunities tailored to the specific fields of specialisation for graduates.
- 9. Engaging in dialogue and collaboration with both public and private entities in order to identify

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potential avenues for providing training to students and equipping them with the necessary qualifications to participate in summer sessions.

#### 7. Labs and Equipment Committee

- 1. The task involves conducting an inventory of materials, equipment, and apparatus in many laboratory settings, as well as identifying their specific material requirements. Additionally, it entails establishing a systematic approach to ensure proper placement and periodic maintenance of these items.
- 2. Create a comprehensive record of the day and date, and affix the examiner's signature on each device, ensuring prompt and diligent follow-up.
- 3. It is imperative to guarantee the accessibility and functionality of all laboratory equipment within the student laboratories.
- 4. It is necessary to establish the availability of maintenance plans, both periodic and preventive, for laboratories and scientific equipment.
- 5. The endeavour involves ensuring the provision of necessary replacement parts through maintenance and purchase contracts that are both guaranteed and officially endorsed.
- 6. The responsibility of overseeing and monitoring the process of equipment updates in the student laboratories, as well as providing essential maintenance and maintaining thorough cleanliness.
- 7. In order to address the needs of faculty members for laboratory equipment, it is essential to diligently pursue the requests made by them and ensure the timely implementation of these demands.
- 8. One potential measure to enhance the educational experience of students in laboratory settings is the provision of teaching and learning aids.
- 9. The task of overseeing the department's library.
- 10. It is imperative to ensure follow-up and establish a comprehensive framework for sourcing learning materials that cater to the diverse requirements of the programme and its associated courses.
- 11. Facilitating convenient access to educational materials at the time of students' requirement.
- 12. In order to ensure the effective utilisation of learning resources, it is imperative to gather the requirements of the teaching staff in a timely manner and make necessary efforts to fulfil them.
- 13. Formulate safety policies and regulations to effectively ensure the safety within the department.
- 14. It is imperative to oversee the examination of the laboratory equipment and ensure compliance with all safety protocols.

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- 15. The task at hand involves conducting an inventory of safety equipment, as well as establishing a systematic procedure for its proper placement and frequent maintenance.
- 16. It is imperative to establish safety protocols in laboratories and classrooms prior to commencing academic activities in each semester.
- 17. The user is advised to establish communication with the primary safety committee at the college in order to discuss matters pertaining to coordination, training.

#### 8. Scientific Research & Innovations Committee

- 1. Develop an operational plan for scientific research in the department and follow up on its implementation.
- 2. Examining the files of applicants for postgraduate studies, sorting and nominating suitable candidates.
- 3. Follow-up of the comprehensive examination for doctoral students.
- 4. Supervising the performance of graduate students and submitting recommendations thereon to the department council.
- 5. Follow-up student scholarship, and submit periodic reports about them to the department.
- 6. Establishing and updating a database of research, scientific projects and conferences locally and internationally, in addition to patents, prizes, books and translations.
- 7. Encouraging publication in scientific journals with a global classification.
- 8. List of graduate students involved in research, projects, conferences, patents, and local or international awards.
- 9. Evaluation of the graduate programs in the departments periodically.
- 10. Prepare a list of graduates of the master's and doctoral students.
- 11. Prepare a list of the faculty members supervising the scientific theses of the higher studies and itsnumbers.
- 12. Conducting an annual evaluation of scientific research projects in the department and submittingrecommendations to the Higher Studies and Scientific Research

#### 9. Alumni & Community Services Committee Partnership

- 1. Nurturing interpersonal relationships among faculty members and/or within a department.
- 2. Establish programmes for both internal and external visits to the college or department.
- 3. One of the responsibilities includes the reception of international delegations and the coordination of their residency programmes and visits.
- 4. Nurturing interpersonal connections among faculty members or inside the department.
- 5. Formulate pragmatic initiatives aimed at enhancing the interconnection between the department and the community, and thereafter monitor their execution.
- 6. The department and its members are responsible for monitoring and categorising scientific research initiatives that contribute to societal service and development plans.
- 7. The department engages in monitoring and documenting training programmes, scientific consultations, cultural events, and awareness initiatives. These efforts play a significant role in supporting community service and development strategies.
- 8. One of the responsibilities entails overseeing various community-serving activities, such as museums, astronomical observatories, permanent exhibitions, and greenhouses.
- 9. The objective is to foster and cultivate a sense of initiative among department staff and students, with the aim of optimising the societal impact of the service function.
- 10. Facilitating the collaboration between the programme and diverse community institutions, including public and private schools.
- 11. Enhancing communication between the department (Programme) and the entities accountable for development plans in the Kingdom of Saudi Arabia.

#### 10. Clinical Affairs Committee

Monitoring the Hospital / Industrial training programs

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#### PART 2 - PROGRAM QUALITY ASSURANCE SYSTEM

#### A. Bi-annual Quality Assurance Auditing

#### a. Program Quality Assurance Committee

The responsibility of conducting routine quality checks on the documents and services given by the programme lies with the Quality Assurance Committee. The approval of the forms utilised for this purpose, which are filled out on a semester basis, is granted by the Vice-Deanship of Quality and Development. These forms are utilised for the evaluation of the quality of important papers and reports, such as annual programme reports, course specifications, and course reports.

#### b. Quality Assurance Unit in VDQSD

The Quality Assurance Unit (QAU) of the Vice-Deanship of Quality and Development conducts a biennial evaluation to verify the compliance of the program's documents and services with predetermined criteria. In order to evaluate the quality of the program's documentation and services, QAU collects evidence, conducts inspections of programme facilities, evaluates relevant paperwork, and arranges meetings with diverse beneficiaries.

#### **B.** Annual Internal Review

In contrast to the biannual Quality Assurance Audits, the annual examination demonstrates a higher level of comprehensiveness. This constitutes the second phase of the review process. The individual holding the position of Vice-Dean of Quality and Development is responsible for supervising the annual internal review procedure, which primarily focuses on the analysis and assessment of the quality of services offered by academic programmes within the College of Applied Medical Sciences (CAMS). In addition, the evaluation procedure serves to validate the readiness of programmes for academic accreditation. The internal review procedure is composed of a review panel consisting of the Coordinator of the Academic Accreditation Unit, the Coordinator of the Measurement and Evaluation Unit, the Coordinator of the Quality Assurance Unit, and the Vice-Dean of Quality and Development. The internal evaluation procedure entails a comprehensive and focused analysis of the

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various high-quality papers and services provided by the courses. Comprehensive assessment reports are generated to provide recommendations and suggestions for the pertinent initiatives. Programme coordinators integrate these remarks into their development strategies with the aim of augmenting the quality of services provided by their programmes.

#### II. Procedures

#### A. Assessment & Evaluation

**Purpose:** To provide program, committees with analysis for further recommendations, writing action plans and for improvement issues.

### The quality cycle is

Analyse the educational requirements

Feedback evaluation to modify programmes teaching, learning, and assessment stratergies

Quality Assurance Comittee Collecting Feedbacks fromstudents and Stakeholders

Establishing sustainable curricula and programmes that have clearly defined objectives and benchmarks.

### Program Plan to achieve the Mission & Objectives



### Program means to achieve the goals



### Ensuring the adequacy of Learning processes &

### Resources



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### **Programs KPIs**

KPI No.	КРІ	KPI Analysis methods and frequencies		
		Data Source	Frequency	Committees Responsible
KPI-PG-1	<b>Percentage of achieved indicators of the program operational plan objectives:</b> Percentage of performance indicators of the operational plan objectives of the program that have achieved the targeted annual level to the total number of indicators targeted for these objectives in the same year.	Data	Annual	Quality & Academic Accreditation Committee
MU-P-01	<b>Average rating of beneficiaries' satisfaction with the community</b> services provided by the program on a five-level scale in an annual survey	Survey	Annual	Alumni & Community Services Committee
KPI-PG-2	Students' Evaluation of quality of learning experience in the program:  Average of overall rating of final year students for the quality of learning experience in the program on a five point scale in an annual survey.	Survey	Annual	Academic Affairs Committee
KPI- PG-3	<b>Students' evaluation of the quality of the courses:</b> Average students' overall rating of the quality of courses on a five-point scale in an annual survey.	Survey	Semester wise	Academic Affairs Committee
KPI-PG-4	<b>Students' evaluation of the quality of scientific supervision:</b> Average students' overall rating of the quality of scientific supervision on a five-point scale in an annual survey.	Survey	Annual	Scientific Research & Innovations Committee
KPI-PG-5	<b>Average time for students' graduation:</b> Average time (in semesters) spent by students to graduate from the program.	Data	Annual	Student Affairs Committee
KPI-PG-6	Rate of students dropping out of the program: Percentage of students who did not complete the program to the total number of students in the same cohort.	Data	Annual	Student Affairs Committee
KPI-PG-7	<b>Graduates' employability:</b> Percentage of graduates from the program who within a year of graduation were employed to the total number of graduates	Data	Annual	Human Resources and Post Graduate

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	in the same year.			Education
				Committee
KPI-PG-8	<b>Employers' evaluation of the program graduates' competency:</b> Average of overall rating of employers for the competency of the program graduates on a five point scale in an annual survey.	Survey	Annual	Human Resources and Post Graduate Education Committee
KPI-PG-9	<b>Students' satisfaction with the provided services:</b> Average of students' satisfaction rate with the various services provided by the program (food, transportation, sport facilities, academic advising,) on a five-point scale in an annual survey.	Survey	Annual	Student Affairs Committee
MU-P2	The <b>percentage of students who received a warning</b> or more in the program to the total number of students in the program.	Data	Annual	Student Affairs Committee
MU-P3	The percentage of students who were denied entry to the final examination of the course for exceeding the legally permitted percentage of the total number of students in the program.	Data	Annual	Student Affairs Committee
MU-P4	<b>Students' publications in conferences</b> : The number of student papers that have been published or presented in scientific conferences during the past year.	Data	Annual	Scientific Research & Innovations Committee
KPI-PG-10	<b>Ratio of students to faculty members:</b> Ratio of the total number of students to the total number of full-time and fulltime equivalent faculty members participating in the program.	Data	Annual	Quality & Academic Accreditation Committee
KPI-PG-11		Data	Annual	Human Resources and Post Graduate Education Committee
	Associate Professor			
	Assistant Professor			
KPI-PG-12	<b>Proportion of faculty members leaving the program:</b> Proportion of faculty members leaving the program annually for reasons other than age retirement to the total number of faculty members.	Data	Annual	Human Resources and Post Graduate Education Committee
KPI-PG-13	Satisfaction of beneficiaries with learning resources: Average of	Survey	Annual	Labs & Equipment Committee

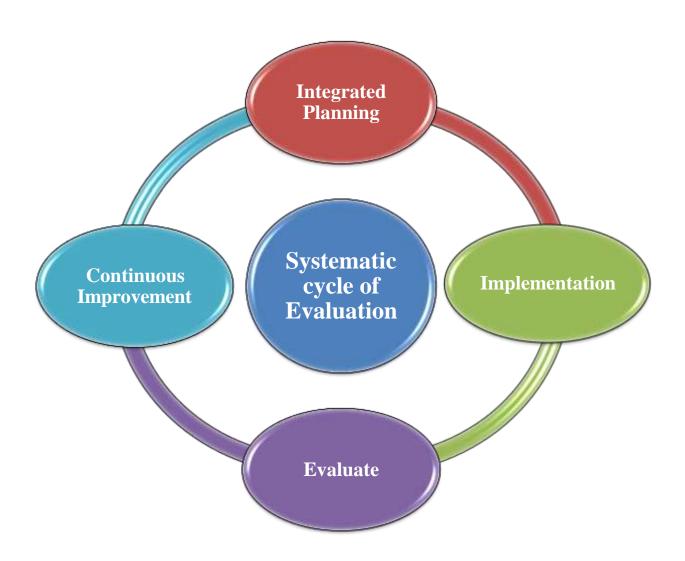
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	beneficiaries' satisfaction rate with learning resources on a five-point scale in an annual survey in terms of:  a. Their adequacy and diversity (references, journals, databases etc.) b.  The support services provided for their utilization.			
KPI-PG-14	Satisfaction of beneficiaries with research facilities and equipment: Average of beneficiaries' satisfaction rate with research facilities and equipment (depending on the nature of the program) on a five-point scale in an annual survey.	Survey	Annual	Labs & Equipment Committee
KPI-PG-15	<b>Percentage of publications of faculty members:</b> Percentage of faculty members participating in the program with at least one research publication during the year to total faculty members in the program.	Data	Annual	Scientific Research & Innovations Committee
KPI-PG-16	Rate of published research per faculty member: The average number of refereed and/or published research per each faculty member participating in the program during the year (total number of refereed and/or published research to the total number of faculty members during the year)	Data	Annual	Scientific Research & Innovations Committee
KPI-PG-17	Citations rate in refereed journals per faculty member: The average number of citations in refereed journals from published research (total number of citations in refereed journals from published research for faculty members to the total published research)	Data	Annual	Scientific Research & Innovations Committee
KPI-PG-18	Percentage of students' publication: Percentage of students who: a. published their research in refereed journals  b. presented papers in conferences to the total number of students in the program during the year.	Data	Annual	Scientific Research & Innovations Committee
KPI-PG-19	Number of patents, innovative products, and awards of excellence: Number of: a. Patents and innovative products b. National and international excellence awards obtained annually by the students and staff of the program.	Data	Annual	Scientific Research & Innovations Committee
MU-P-05	The percentage of full-time faculty members who provided professional development activities inside or outside the university during the year to the total teaching staff in the program	Data	Annual	Quality & Academic Accreditation Committee

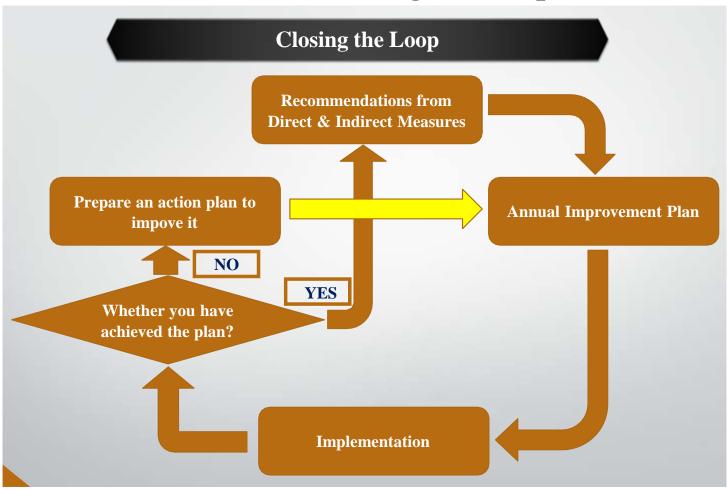
### **Program Evaluation Process**



### **Systematic Cycle of Evaluation**



### **Process of Closing the Loop**



## **Mapping Matrix of the Indirect Measures**

S. No	Methods of Assessment	Mapping Matrix based on desired level of performance. (I=Introduced, P=Practiced, M=Mastered)
1	Student Experience Survey (SES)	I
2	Course Evaluation Survey (CES)	I
3	Academic Advising Survey (AAS)	I
4	Survey on Community Services (SCS)	I
5	Program Evaluation Survey (PES)	P
6	Scientific Supervision Survey (SSS)	P
7	Faculty Satisfaction Survey (FSS)	P
8	Advisory Committee feedback	P
9	Student overall GPA	P
10	Quality Assurance Audits	P
11	Graduate / Alumni Survey (AS)	M
12	Graduate Stakeholder's Survey (GSS)	M
13	Vision Mission Survey (VMS)	M
14	External reviews (NCAAA, AHPGS, & ABET)	M

### Linking of Program Quality System to the Institution (CAMS)

