BOTANY AND MICROBIOLOGY DEPARTMENT



Quality Assurance Manual

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Introduction

Quality Assurance process determines both strengths and weaknesses points, and corrective and protective plans in academic programs leading to its quality improvement. Teaching quality is becoming a strategic direction of the higher education repairs in the Arab area and in the heart of Saudi Arabia. Its importance is recently gaining more and more recognition by both the policy makers as well as the various providers of higher education. For Microbiology Program, a vision to keep abreast of the age and to the leadership in the academic and community services, in order to realize the vision of 2030 in preparing distinguished cadres in the field of microbiology to serve the nation in various fields of life. Hence the role of the National Center for Academic Accreditation and Evaluation (NCAAA) in the adoption and evaluation of academic programs, including microbiology program to be achieved improvement, quality and excellence. Accreditation of the programs is being based on a set of indicators known as the key performance indicators (KPIs) were been adopted by the Center (NCAAA) and the quality management system at King Saud University, moreover indicators of learning outcomes approved by the college of Science. KPIs are collected through different questionnaires for teaching staff, undergraduates, postgraduates, graduates and employers, as well as statistics on numerical achievements and values of learning outcomes indicators. All achieved KPIs of microbiology program should be compared with internal or external benchmarks. This report uses qualitative and quantitative methods to achieve the objectives of program. 39 key performance indicators were chosen under 7 main standards, 19 KPIs were chosen from KPIs of NCAAA. According to the quality management System (QMS) of college of Science one of the tasks of quality and development committee in the program. In total, 5 questionnaires are being distributed to teaching staff, student (Course evaluation, program evaluation, student's experiences), employers. A questionnaire was being designed to rate the favourability of the chosen KPIs in five-point scale (1.00 –Less favourable, 2.00 –Slightly favourable, 3 .00 –Quite favourable, 4 .00 –Favourable, 5 .00 –Most favourable) and Analysis of questionnaires are being done using statistical mean, percentages and/ or standard deviation. Any data can be used to measure the achievement in a program. Moreover, Statistics for numbers of students, graduates, teaching staff, citations and publications. Values of KPIs of the last years were used as an internal benchmark. An internal monitoring system which will regularly measure the effectiveness of the

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procedures. A self-evaluation system which will examine and report on the quality of programmers and services. Here, various committees perform in an integrated with director of the programs in administration academically and environmentally to control of the quality from planning, implementation, monitoring and to improvement.

Purpose

Academic quality assurance aims primarily to certify continuous improvement in different programs of botany and microbiology department, through a process of self-evaluation, internal review and constructive, formative criticism by external reviewers (nationally and internationally accreditation bodies). A quality assurance review is to evaluate five aspects of a program:

- (1) Quality.
- (2) Resource use.
- (3) Following of achievement of action plans for programs, and Consistent mission and goals of program with the university.
- (4) Adaptability.
- (5) Review of a program is a tool for well change.

Policy

The Academic Quality Assurance Policy has three main goals:

- (1) Ensure high standards, quality of outcomes and continuous improvement of the academic programs of botany and microbiology
- (2) Determine strengths and weaknesses paths, corrective and protective methods for continues improvement of programs of the department.
- (3) Document, Integrate, communicate The different procedures of quality assurance processes.

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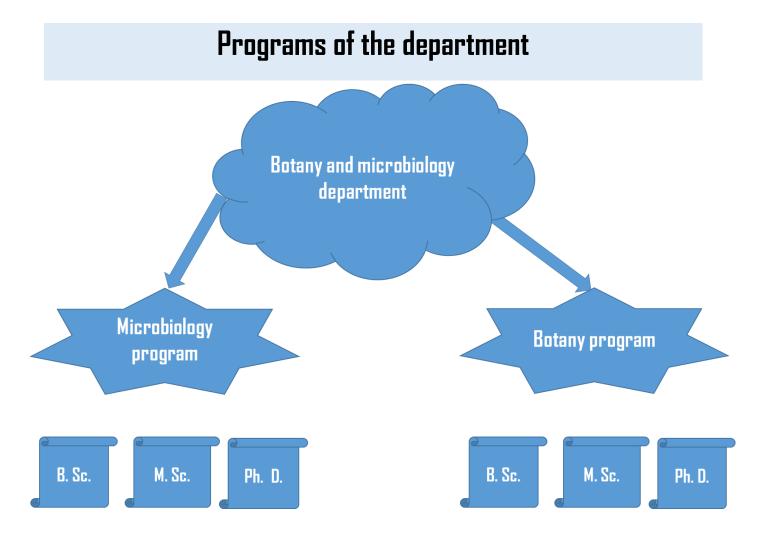


Definitions in the Quality

Quality it is meet of requirements for customer as good product or service

- **Academic quality** is meet of stockholders needs from educational process including appropriate and effective teaching, support, assessment and learning opportunities are provided for them.
- **Quality assurance (QA)** process in which determines both strengths and weaknesses points, and corrective and protective plans in academic programs leading to its quality improvement
- **Quality system** also known as a Quality Assurance (QA) system or a Quality Management System (QMS), is a management system that helps to ensure the consistency of quality of educational outcomes
- Compliance with Quality System Standards is established by completion of a successful quality internally and externally reviews conducted by an accreditation bodies acceptable to the Saudi Arabia (for examples, The National center for Academic Accreditation & Assessment (NCAAA)





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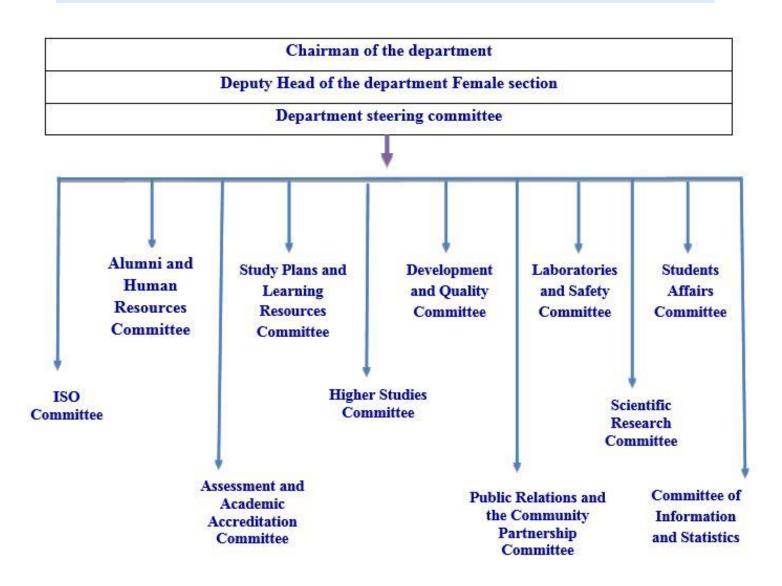


Vision, Mission and Goals of programs

Vision, mission and goals of all programs of the department were submitted in website of botany and microbiology department as in this link http://sciences.ksu.edu.sa/ar/node/115 . these mission and goals of all programs are consistent with mission and goals of college of science.



Organization Structure of the Quality Management System in Department of Botany and Microbiology





Tasks of the Department Committees

1. Department's Steering Committee

Supervision and follow-up of quality activities: -

- 1. Supervising the implementation of the working plans of the various activities of the department.
- 2. Follow up the completion of all academic accreditation requirements.
- 3. Preparing and updating the manuals of the department and program.
- 4. Holding a monthly meeting to discuss the reports of the quality management system in the department.
- 5. Follow-up and coordination with the Vice Dean of Development and quality and providing it with periodic reports.

The strategic plan: -

- 1. Define the vision, mission and goals of the department and review it periodically.
- 2. Follow up the implementation of the department's action plan.
- 3. Identifying elements of strength and weakness in the various activities of the program and drawing up the necessary plans to benefit or address them.
- 4. Looking forward to the future plans of the department.

2. The Development and Quality Committee (DQC):

- 1. Enhancing quality culture among faculty members, department staff and students.
- 2. Develop, manage and monitor quality control processes in the department.
- 3. Prepare, monitor, distribute, collect and analyze all five questionnaires of the National Commission for Academic Evaluation and Accreditation.
- 4. Selecting performance indicators and benchmarking of the program, analyzing it and building improvement plans based on it.
- 5. Select and follow up the independent auditor's report and develop improvement plans based on his / her recommendations.
- 6. Follow up the development of modern trends in methods, methodology and teaching techniques.

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3. The Evaluation and Academic Accreditation Committee (EAAC):

- 1. Preparing and revising reports of Program's Description, course specification, and Courses Reports that are assembled from College members, and running its electronic saving, and then sorting them in their specific files in the program's academic room (PAR).
- 2. Organizing, supervising and preserving program's documentations in the academic room, in order to be ready prepared and organized at the time of the external auditors' surveillance stopover.
- 3. Ensure the preparation of copies of the student exams and copies of their answer sheets for all courses of the program each semester.
- 4. Regularly updating and revising all (QMS) accreditation files documentation of ACR's, in order to be ready at any sudden visit of scrutiny, and any allowed users.
- 5. Regularly organizing, preparing and submitting periodical reports of the Committee's meeting, and also placing all these reports in the program's Academic Accreditation room (ACR).
- 6. Supervising and Preparing the Self-study report (SSR) for obtaining or updating national and international accreditations.

4. Student Affairs Committee

Guidance and student rights:

- 1. Prepare a plan for the student guidance program and update it annually.
- 2. Raising awareness of the importance of academic, professional, psychological and social accreditation.
- 3. Raising students' awareness of supporting services and activities provided by the college and university and follow-up.
- 4. Receiving and responding to students' proposals or complaints and working to overcome them.
- 5. Prepare preventive programs to protect students from vulnerability.
- 6. Academic support (study the situation of students with default or low rates) and preparing academic programs to support students with unsatisfactory performance.
- 7. Follow-up of extra-curricular activities

Registration and tests:

- 1. Equation of the courses of the program with the courses of other programs.
- 2. Work on the preparation of study schedules; to be delivered on time.

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- 3. Follow up the commitment of the departments with the regulations of the college in the preparation of the time table of the study.
- 4. Prepare and review the teaching load of faculty members.
- 5. Follow-up distribution of the courses of the departments on the halls assigned to each department.
- 6. Checking the suitability of the number of students in each section with the capacity of the class assigned for the course.
- 7. Follow up the work of the examination committees.
- 8. Receive the results from the teachers of the courses in preparation for adoption before monitoring.

5. Committee of study plans and learning resources

Study Plans:

- 1. Arbitration of study plans from internal and external bodies to ensure access to an academic excellence plan, with emphasis on the fulfillment of the "National Qualifications Framework".
- 2. Developing plans, curricula and scientific curricula in accordance with the needs of the society and the labor market.
- 3. Activate the role of the advisory committee in the department.
- 4. Identify and implement training programs to develop teaching, research and technical skills for faculty members.
- 5. Determine the appropriateness of courses for practical life.
- 6. Submit periodic reports on the curricula and scientific programs to the department council.
- 7. Introducing good interdisciplinary programs.
- 8. Preparation and implementation of workshops for proposed or new programs in the department.

Learning Resources:

- 1. Supervising the library of the department
- 2. Follow-up and work to provide sources of learning to meet all the needs of the program and its courses.
- 3. Ensuring an easy access to learning resources when students need them.
- 4. Collecting the needs of the teaching staff from the learning resources before using them in sufficient time and work to provide them.

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5. Follow-up updating the scientific references of the decisions.

E-Learning:

- 1. Activating and integrating the work with electronic courses and digital content at all levels of study in the department.
- 2. Commitment to the Blackboard system to be the tool in delivering electronic course information.
- 3. Determine the appropriate training needs for faculty members and students to apply e-learning.
- 4. Supervising the department's website.
- 5. Urging faculty members to update their electronic pages on the department's website and to develop their educational materials and scientific production.

6. Alumni and Human Resources Committee

- 1. Establishing a database of graduates of the department and update it periodically.
- 2. Collecting personal data of the students who are expected to graduate including their contact details
- 3. Attract graduates qualified to continue their higher studies.
- 4. Follow-up promotion of faculty members.
- 5. Collecting, tabulating and documenting the data of employers and employers, indicating how to contact them, and exploring the possibility of cooperation with them in recruiting graduates and creating effective partnership in this context.
- 6. Develop communication programs, whether electronic or otherwise, to strengthen the relationship between graduate students and employment.
- 7. Surveying (preparation, distribution and collection of questionnaires) graduates' opinions who have jobs in the public and private sectors outside the college.
- 8. Find an effective mechanism to provide employment opportunities for graduates in their fields of specialization.
- 9. Communicating with the public and private sectors to find opportunities to train students and qualify them to work in summer classes.

7. Laboratories and Safety Committee

<u>Laboratories:</u>

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- 1. Inventory materials, equipment and equipment in various laboratories and their requirements of materials, and organize the process of placing them in the correct place and maintenance periodically.
- 2. Make a list of the day and date and sign the examiner at each device and follow it up first.
- 3. Ensure the availability and operation of all laboratory equipment in the student laboratories.
- 4. Ensure that maintenance plans (periodic and preventive) are available for laboratories and scientific equipment.
- 5. Working to provide the required spare parts through guaranteed signed and approved maintenance and purchase contracts.
- 6. Supervising and following-up the updating of the equipment in the student labs, providing the necessary maintenance, and ensuring full care for their cleanliness.
- 7. Follow up the requests of faculty members for equipping laboratories and follow up the implementation of these requests.
- 8. Provide teaching and learning aids for students in laboratories.

Safety:

- 1. Develop safety policies and regulations that achieve the safety in the department.
- 2. Monitor the inspection of the equipments and all safety measures in the laboratory.
- 3. Inventory safety equipment and organize the process of placing it in the correct place and maintenance periodically.
- 4. Ensure that safety measures are provided in laboratories and classrooms before starting the study in each semester.
- 5. Communicate with the main safety committee in the college regarding coordination, training courses and other works.
- 6. Development of emergency phone numbers Preparation of awareness-raising instructional publications for students on safety procedures for various hazards (electrical and/ or chemicals) at the beginning of the academic year.
- 7. Follow up the conservation of chemical and radioactive wastes in the department.
- 8. Follow-up safety procedures in laboratories and classrooms and Place the safety phone numbers in the laboratory.
- 9. Conducting periodic training for faculty members and students to comply with the implementation of evacuation methods and dealing with safety methods in laboratories.

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10.Follow-up of all safety requirements in the Department - Raising awareness among the staff of the department and students of the importance of complying with safety instructions.

8. High Studies and scientific Research Committee

- 1. Develop a strategic 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 its numbers.
- 12. Conducting an annual evaluation of scientific research projects in the department and submitting recommendations to the Higher Studies and Scientific Research

9. Committee on Public Relations and Community Partnership

Public relations:

- 1. Caring for social relations between faculty members and / or department.
- 2. Develop programs of internal and external visits to the college or department.
- 3. Follow-up files and correspondence with internal and external bodies and twinning projects and inform the Dean of the College or the Head of the Department of the progress and results later to make the appropriate decisions.
- 4. Receiving foreign delegations and organizing their residency programs and visits.

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- 5. Contribution in providing the university magazine and the site of the college on web with the activities and events that taking place.
- 6. Caring for social relations between faculty members or the department

Community Partnership:

- 1. Develop practical programs to strengthen the relationship between the department and the community, and follow up their implementation.
- 2. Monitor and categorize scientific research projects carried out by the department and its members that contribute to the service of society and development plans.
- Monitoring and tabulating training programs and scientific consultations, and cultural and awareness activities carried out by the department, which contribute to community service and development plans.
- 4. Supervising the activities that serve the community, namely: museums, astronomical observatory, permanent exhibition, greenhouse etc.
- 5. Encouraging and developing the spirit of initiative among the employees of the department and the students to maximize the return of the service role to society.
- 6. Activating the partnership between the program and the various community institutions, in particular public and private schools.
- 7. Deepening communication between the department (Program) and the bodies responsible for development plans in the Kingdom of Saudi Arabia.

10. ISO Committee

- 1. Preparing the organizational structure, job descriptions and tasks for each of its units.
- 2. Supervise the implementation of the administrative quality system and address the gaps that prevent its implementation.
- 3. Preparing plans to develop and improve the department's quality management system.
- 4. Working on achieving and applying the objectives and policy of administrative quality.
- 5. Making recommendations for improving financial and administrative performance.
- 6. Surveying the satisfaction of beneficiaries (internal and external) about the services provided.
- 7. Provide the necessary facilities to implement the system.
- 8. To identify, analyze and solve the employee problems.
- 9. Analyzing and treatment of complaints of beneficiaries and take the necessary corrective and preventive measures.

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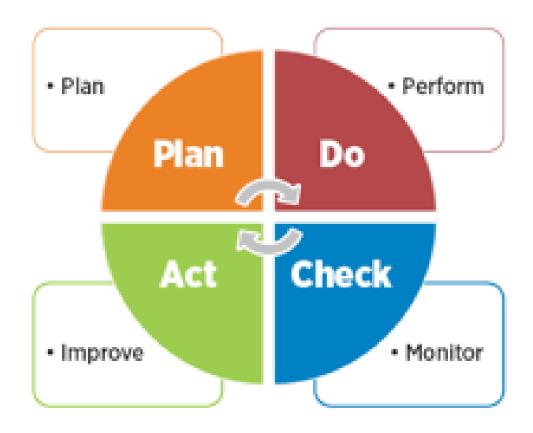
10. Supervise internal and external audit and follow up the implementation of its recommendations.

11. Committee of Information and Statistics

- 1. Updating a database of faculty members, administrators, technicians, scholarships and internal supervision in the department and keeping them in a special record.
- 2. Making list of the scientific works of each member of the teaching staff, and the activities they have undertaken since the previous year whether writing books, research projects, scientific research, attending seminars or conferences inside or outside the Kingdom.
- 3. Making list of seminars, conferences, lectures, training courses, scientific consultations, research services, cultural, social and awareness activities of the faculty members which they have undertaken for community service over the past three years.
- 4. Making list of the prizes received by faculty members or students in the department.



The quality cycle is:





1-Plan



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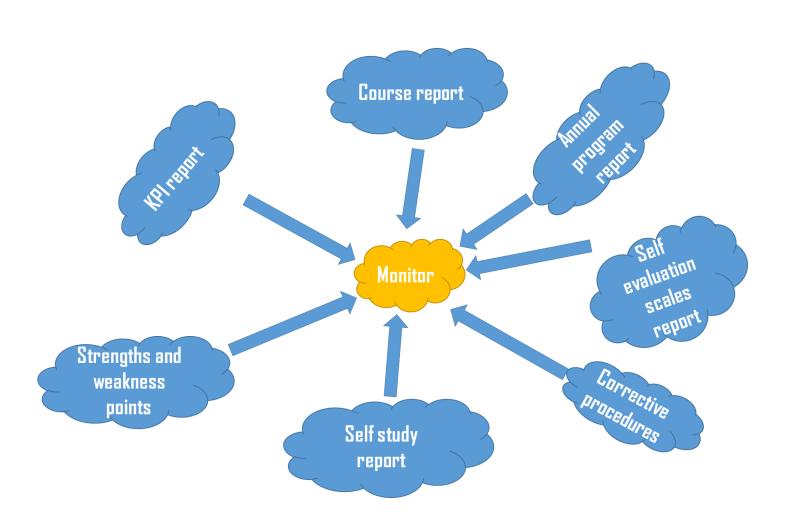
2- Do



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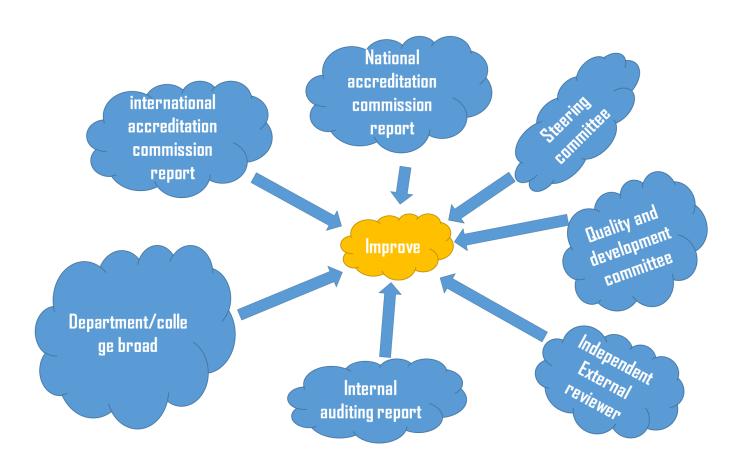
3-Monitor



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4-Improve





Evaluation of Program Quality matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of teaching and assessment	Student, peer Reviewer, program leaders	Program evaluation questioner Students- faculty meetings	End of academic year
Extent of achievement of course/program learning outcomes	Program Leaders, faculty, quality and development unit	Preparation of program report Peer consultation on teaching Departmental council discussions Self-evaluation	At end of each study term
Quality of learning resources	Student, faculty, internal and external auditors	Program evaluation Self-study report	At end of each study term At writing of self-study report

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Programs KPIs

STEERING COMMITTEE

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnaire
1	The average ratings of faculty to the statement " there is close link between the Department's mission and its activities "	1	VDQ
2	The average ratings of stakeholders to the statement " mission statements reflected the needs of its community "	1	VDQ
3	The average ratings of students to the statement " mission statements reflected the needs of its community "	1	VDQ
4	The average ratings of the faculty members to the statement "mission statements guides decision-making processes and development of policies in the department"	1	VDQ
15	No of external reviewers conducting the program evaluation	3	VDQ

DEVELOPMENT AND QUALITY COMMITTEE

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnaire
5	The average ratings of staff to the following statement "The head of my department is understanding and cooperative".	2	VDQ
6	The average ratings of staff to the following statement "I can easily reach the head of my department".	2	VDQ
7	The average ratings of staff to the following statement "Program administration is understanding and cooperative".	2	VDQ



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8	The average ratings of staff to the following statement "I can easily reach the program administration".	2	VDQ
		_	
9	Evaluation of Governance and Leadership Effectiveness (Means average and Level achieved based on survey)	2	QMS 2.9.1
10	Evaluation of Management and Administration overall performance (Means average and Level achieved based on survey)	2	QMS 2.9.3
14	Percent of the full-time faculty members obtaining academic or professional awards at the national or international level	3	QMS 3.6.2
17	Student, competency score index as per NQF (Means Average and Level achieved).	4	QMS 4.12.1
18	Students overall rating on the quality of their courses	4	QMS 4.12.5 & NCAAA6
22	Students Evaluation of the program ""I'm satisfied with the level of quality of educational experience in this University "	4	Program, Graduate & Student exper.
24	Students satisfaction rate about academic support	4	Program, Graduate & Student exper.
32	The average rating by students to the question: Course registration is organized and easy	5	Student experience 4
34	Student evaluation of academic and career counselling from answering the question I received appropriate Academic guidance when I needed it in graduate evaluation survey.	5	QMS 5.7.3 & NCAAA 14 & Graduate
46	Proportion of faculty members leaving the Department in the past year for reasons other than age retirement.	9	QMS 9.5.1 & NCAAA 24
47	Proportion of full time faculty members participating in professional development activities during the past year.	9	QMS 9.5.2 & NCAAA 25
48	Percentage of full-time supporting staff who were developed in professional knowledge and skills in the country and abroad (% and Level achieved)	9	QMS 9.5.3



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VICE DEANSHIP OF DEVELOPMENT AND QUALITY

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnair e
31	Ratio of students to administrative staff.	5	QMS 5.7.1 & NCAAA12
33	Proportion of Total Operating funds (other than accommodation and student Allowances) allocated to provision of student services (Ratio and Level achieved).	5	QMS 5.7.2 & NCAAA 13
40	Number of book titles held in the library as a proportion of the number of students (Ratio and Level Achieved).	6	QMS 6.5.1 & NCAAA 15
45	Total operating expenditure (other than accommodation and student allowances) per student. (Number Changed)	8	QMS 8.4.1 & NCAAA 23
16	Proportion of programs in which there was independent verifications within the institution of standards of student's achievement during the year.	3	QMS 3.6.5 & NCAAA3



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ALUMNI AND HUMAN RESOURCES COMMITTEE

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnaire
19	Employer overall rating about the graduates "I'm satisfied with the graduates of the program"	4	Employers Questionnaire
23	Proportion of bachelor graduates from undergraduate programs who within six months of graduation are (mean average and level accomplished) a. Employed b. Enrolled for further study c. Not seeking employment or further study	4	QMS 4.12.11 & NCAAA 11

STUDY PLANS AND LEARNING RESOURCES COMMITTEE

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnaire
20	Students satisfaction rates about the reformed curriculum "I am satisfied with the current curriculum"	4	VDQ
21	Faculty satisfaction rates about the reformed curriculum a. "I am satisfied with the current curriculum" b. "I support changing the curriculum and the teaching methods"	4	VDQ



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ASSESSMENT AND ACADEMIC ACCREDITATION COMMITTEE

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnaire
11	Students overall evaluation on the quality of their learning experiences at the institution (Average rating of the overall quality of their program on a five point scale in an annual survey of final year students) (QMS)	3	QMS 3.6.3 & NCAAA 1
12	Proportion of the courses in which, student evaluations were conducted during a year time.	3	QMS 3.6.4 & NCAAA 2
13	Proportion of the course reports conducted within a year time	3	VDQ
25	Percentage of student entering programs who successfully complete first year.	4	QMS 4.12.9 & NCAAA 8
26	Proportion of students entering undergraduate programs who complete those programs in minimum time	4	QMS 4.12.3 & NCAAA 9
27	Percentage of full time faculty members holding Doctoral degrees or equivalent in proportion to the total number of full time faculty members.	4	QMS 4.12.7 & NCAAA7
28	Proportion of full time faculty members holding academic titles of teaching assistant, instructor, assistant professor, associate professor, and professor	4	QMS 4.12.8
29	Proportion of full time students in proportion of full time faculty members (mean average and level accomplished	4	SSR

STUDY PLANS AND LEARNING RESOURCES COMMITTEE

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnaire
34	The average rating by the students to the question: The learning resources are adequate in course evaluation survey	6	Course
35	The average rating by the graduates to the question: Learning sources were known "available" to me in graduate evaluation survey	6	Graduate



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36	The average rating by the students to the question: The learning resources were appropriate "useful" in course evaluation survey	6	Course
37	The average rating by graduates to the question: The library facilities were adequate in graduate and intern evaluation surveys	6	Program
38	The average rating by staff to the question: The library services are appropriate in staff evaluation survey	6	QMS 6.5.4 & NCAAA18 & PROGRAM
41	Average overall rating of adequacy of facilities and equipment in a survey of teaching staff (Means average and Level achieved based on survey)	6	QMS 7.6.3 & NCAAA 21
42	The average rating by the students in graduate evaluation survey on response to the statement: "The classroom facilities (for lectures and labs) are good enough"	6	GRADUATE
43	Number of accessible computer terminals per student (in the program).	6	QMS 7.6.2 & NCAAA 20
44	Internet bandwidth per user	E-Learning committee	QMS 7.6.4 & NCAAA 22

HIGHER STUDIES COMMITTEE AND SCIENTIFIC RESEARCH COMMITTEE

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnair e
48	Number of publications in reviewed journals in the previous year per full time member of teaching staff.	10	QMS 10.5.1
49	Number of publications in ISI journals in the previous year per full time member of teaching staff.	10	VDQ
50	Number of papers or reports presented at academic conferences during the past year per full time member of teaching staff	10	QMS 10.5.7
51	Ratio of internal research and innovation funds in proportion to the total number of fulltime faculty members (Ratio and Level achieved)	10	QMS 10.5.5
52	Ratio of external research and innovation funds in proportion to the total number of full-time faculty members (Means average and Level achieved)	10	QMS 10.5.6 & NCAAA 30



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53	Evaluation of facilities and environment supporting research (Mean average and level achieved based on survey).	10	QMS 10.5.4
54	Proportion of full-time member of faculty members with at least on referred publications during the previous year	10	QMS 10.5.3 & NCAAA 28
55	Number of citations in refereed journals in the previous year per full time faculty members,	10	QMS 10.5.2 & NCAAA 27
56	Number of research and innovations registered as intellectual property or patented within the past 5 years (Number and Level achieved)	10	QMS 10.5.8

PUBLIC RELATIONS AND THE COMMUNITY PARTNERSHIP COMMITTEE

KPI	List of Program KPIs Approved by the Institution	Concerned standard	Questionnair e
58	Proportion of full time teaching and other staff actively engaged in community service activities	11	QMS 11.4.3
59	Number of seconded faculty members in the department	11	VDQ
60	Number of community education program provided in proportion of the number of departments (Means average and Level achieved)	11	QMS 11.4.4 & NCAAA 32