

program specifications

(Postgraduate Degree)

Program Name: Master Of Science In Pharmacology
Qualification Level : Master
Department: Pharmacology and Toxicology
College: Pharmacy
Institution: Qassim University

Content

A. Program Identification and General Information	3
B. Mission, Objectives, and Learning Outcomes.....	5
C. Curriculum.....	8
D. Student Admission and Support:.....	10
E. Teaching and Administrative Staff	11
F. Learning Resources, Facilities, and Equipment.....	12
G. Program Management and Regulations	13
H. Program Quality Assurance	15
I. Specification Approval Authority.....	20

A. Program Identification and General Information

1. Program Main Location: College of Pharmacy- Main campus - Mulaida
2. Branches Offering the Program:
Not Applicable
3. Reasons for Establishing the Program: (Economic, social, cultural, and technological reasons, and national needs and development, etc.)
<p>The need for Master of Pharmacy program in Pharmacology can be summarized in the following key points:</p> <ul style="list-style-type: none"> • Preparing specialized pharmacists competent in pharmacology • Preparing distinct lecturers specialized in pharmacology for the benefit of teaching in the Saudi universities <input type="checkbox"/> Encourage scientific research in pharmaceutical sciences and in particular Pharmacology <input type="checkbox"/> Contributing to follow-up of the therapeutic process in university hospitals and clinics <p>Due to the increasing demand of the graduates students from colleges of Pharmacy and Clinical Pharmacy on postgraduate programs in the fields of Pharmacy and especially pharmacology, and due to the increasing demand from the pharmaceutical companies, the Ministry of Health hospitals , the pharmaceutical distributors and the pharmaceutical advertising companies for specialists in the field of Pharmacology, this program Insha Allah will help to accommodate the largest number of graduates of undergraduate stage and to meet the needs of the job market through the preparation of pharmaceutical Competencies distinct to work successfully in various government and private hospitals, pharmaceutical companies and contribute to providing the best pharmaceutical care to the patients and actively participate in sustainable development in Saudi Arabia.</p>
4. System of Study
<input checked="" type="checkbox"/> Coursework & Thesis <input type="checkbox"/> Coursework
5. Mode of Study
<input checked="" type="checkbox"/> On Campus <input type="checkbox"/> Distance Education <input type="checkbox"/> Others
6. Educational and Research Partnerships(if any)
<p>- Partnership Arrangement: The courses are studied in the first 3 semesters to prepare the students start their theses in the fourth semester</p> <p>- Type of Partnership:</p> <p>- Duration of Partnership:</p>
7. Total Credit Hours for Completing the Program: (35 credits)
8. Learning Hours: (1440 hours)
<p>The time that a learner takes to complete learning activities that lead to achievement of program learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times)</p> <p>Study time (20%), homework assignments (20%), projects (20%), preparing presentations (20%), and library times (20%)</p>
9. Professional Occupations/Jobs:
<ul style="list-style-type: none"> • Academia • Scientific Research Centers • The Saudi Food and Drug Authority • Drug and poison information centers

• **Pharmacovigilance Centers**

10. Major Tracks/Pathways (if any):

Major Track/Pathway	Credit Hours (For each track)	Professional Occupations/Jobs (For each track)
1. Advanced Pharmacology	10	<ul style="list-style-type: none"> Academia The Saudi Food and Drug Authority Drug and poison information centers
2. Applied Pharmacology	4	<ul style="list-style-type: none"> The Saudi Food and Drug Authority Drug and poison information centers Pharmacovigilance Centers
3. Thesis	7	<ul style="list-style-type: none"> Academia Scientific Research Centers

11. Intermediate Exit Points/Awarded Degree (if any): **Not applicable**

Intermediate Exit Points/Awarded Degree	Credit Hours
1. Non	
2.	
3.	

B. Mission, Goals, and Learning Outcomes

1. Program Mission:

Provision of accredited master program for pharmacy students to produce competent pharmacologists with advanced training on basic and applied research on drugs using various animal and cellular models to achieve the needs of the job market and achieve high quality health care for patients and the health team.

2. Program Goals:

Goal 1: To Provide laws, regulations, safety and ethical standards required for the experimental procedures in animals

Goal 2: To provide adequate hands-on training in various animal models and determine the effects of drugs using animal models

Goal 3: To provide practical inputs in animal studies to establish *in-vitro* and *in-vivo* correlations

Goal 4: To help in understanding the role of Pharmacologist in rational drug prescription

Goal 5: To train students in using suitable experimental and statistical methods for interpretation of data

Goal 6: To prepare the students in teamwork, lifelong learning and continuous improvement

3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

College mission:

To provide an advanced and accredited pharmacy education that produces professionally qualified clinical pharmacists capable of conducting cutting-edge healthcare and applied research using the latest and effective approaches through collaboration with local, national, and international healthcare, pharmaceutical, and research institutions.

College goals:

1. To provide students with the basic principles and fundamentals of pharmacy education.
2. To cultivate qualities of leadership, creative thinking, ethics, personal and social responsibility in students so they graduate as competent team players.
3. To provide students skills in information technology and written and oral professional communication and quantitative ability and numerical skills for the field of pharmacy.
4. To encourage students to develop intellectually and professionally to meet current and future challenges in the field of pharmacy.
5. To train students in up-to-date technological advances in pharmacy.
6. To provide community awareness programs on healthy lifestyles and on the proper use and consequences of misuse of medicines.
7. To enable students to conduct research in pharmacy science and use the results for the benefit of society.

College Goals	Program Goals					
	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
Goal 1	√			√		
Goal 2		√				
Goal 3					√	
Goal 4						√
Goal 5						√
Goal 6				√		
Goal 7			√			

4. Graduate Attributes:

1. Ability to conduct both In vivo and in vitro pharmacological experiments
2. Developed Skills to analyze the literature, interpret data and relate it to problem solving in pharmacology
3. Capability to design protocol for the pharmacological evaluation of drugs and analyze and interpret the significance of drug responses
4. Ability to make professional medical decisions according to situations when faced with medical problems.

5. Program Learning Outcomes***Knowledge :**

K1	Describe the various classes of drugs.
K2	Describe the physiological roles of neurotransmitters in behavior and their relevance to specific neurological and psychiatric disorders.
K3	Memorize the various mechanisms of drugs used in treatment of diseases.
K4	Explain the rationale for the usage of animal models in drug discovery and Identify alternatives for animal models.

K5	Explain the different methods of instrumental and statistical analyses used in pharmacological research.
K6	Identify the recent advances in pharmacology.
K7	Identify the first drug of choice and alternatives in the treatment of selected disease
K8	Monitor the efficacy and adverse effects of drugs used in the treatment of selected diseases
K9	Describe the various aspects of scientific writing and publications
Skills	
S1	Analyze the literature information and relate it to problem solving in pharmacology
S2	Expect the relative risks and benefits of commonly used drugs
S3	Design the protocol for the pharmacological evaluation of drugs and analyze and interpret the significance of drug responses
S5	Perform pharmacological screening methods and interpret the results of instrumental, biomedical and statistical analyses
S5	Design a therapeutic and monitoring plans for the treatment of selected diseases
Competence	
C1	Work effectively with others as a member of a team or other professional group
C2	Choose appropriate analytical and statistical methods while conducting pharmacological experiments
C3	Prepare and make oral or written presentations in the form of seminar or in other scientific forms.
C4	Apply statistical methods (using software) to analyze scientific data and make inferences.
C5	Perform a wide range of pharmacological experiments including In-vivo and in vitro experiments
C6	Identify known or unknown active principles and demonstrate their pharmacological and toxicological profiles
C7	Write research protocols independently and communicate with professional bodies
C8	Show self-learning and conduct independent and effective research /study

* Add a table for each track or Exit Points/Awarded Degree (if any)

C. Curriculum

1. Study Plan Structure

Program Structure		No. of Courses	Credit Hours	Percentage
Course	Required	9	26	83.33%
	Elective	1	2	7.14%
Graduation Project (if any)		-	-	-
Project (if any)		1	7	9.52%
Field Experience(if any)				
Others (.....)				
Total		11	35	100%

* Add a table for each track (if any)

2. Program Courses:

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours
Level 1	PHG 611	Advanced Pharmacology-I	Required	-	4
	PHG 612	Physiology and Biochemistry	Required	-	4
	PHG 613	Drug Discovery and Development	Required	-	2
Level 2	PHG 621	Advanced Pharmacology-II	Required	-	4
	PHG 622	Drug Screening and Research Methods	Required	-	3
	PHP 625	Biostatistics	Required	-	2
	PHP 624	Seminars and Scientific Writing	Required	-	2
Level 3	PHG 631	Applied Pharmacology	Required	-	3
	PHG 632	Pharmacogenomics	Required	-	2
	PHG 633	Toxicology	Elective	-	2
	PHG 634	Immunopharmacology	Elective	-	
	PHG 635	Ethanopharmacology	Elective	-	
Level 4	PHG 669	Thesis	Required	-	7
Total					35

* Include additional levels if needed

** Add a table for each track (if any)

3. Course Specifications

Insert hyperlink for all course specifications using NCAA template

4. Program learning Outcomes Mapping Matrix

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

Course code & No.	Program Learning Outcomes																					
	Knowledge									Skills					Competence							
	K 1	K 2	K 3	K 4	K 5	K 6	K 7	K .8	K .9	S. 1	S. 2	S. 3	S. 4	S. 5	C .1	C 2	C 3	C 4	C 5	C 6	C 7	C 8
PHG 611	I		P	I		M					I	M	P									
PHG 612		I	I							P					P	P						
PHG 613	I	I	I	I						P	P											
PHG 621	I	I	P			M				M												
PHG 622				I	I							P	P			P			P	P		
PHP 625				P	M							I		P			M					
PHP 624									I									M				
PHG 631			I			I	P	P		P			P	M								
PHG 632			M			M					P						M	M				
PHG 633	M		M					P		P	P						P			P		
PHG 634			M					I	P	P						P						
PHG 635	M									P												
PHG 669					P				P	P						M					M	M

* Add a table for each track (if any)

5. Teaching and Learning Strategies to Achieve Program Learning Outcomes

Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

- ☐ Lectures
- ☐ Assignments
- ☐ Seminars and Presentations
- ☐ TBL and Case discussion
- ☐ Lab classes

6. Assessment Methods for Program Learning Outcomes.

Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning.

- ✓ MCQs, Short Notes and Short Essay
- ✓ Viva voce
- ✓ TBL (iRAT & gRAT)
- ✓ Assignments
- ✓ Presentations
- ✓ Reports
- ✓ Quizzes
- ✓ Case Studies
- ✓ Continuous practical assessment and final practical exams
- ✓ Project evaluation

D. Project and Its Requirements (if any)

1. Registration of the **project**:

(Requirements/conditions and procedures for registration of the **project** as well as controls, responsibilities and procedures of scientific guidance)

Following the University rules, the student has to finish at least 50% of the courses with GPA of at least 3.75 to allow him to register the **project**. The name of supervisor(s) is approved by the department council; the student starts to prepare the proposal of his **project**, approved by the department and college councils, then by the Deanship of postgraduate. After that the students start working in **project**.

2. Scientific Supervision:

(The regulations of the selection of the scientific supervisor and his/her responsibilities, as well as the procedures/mechanisms of the scientific supervision and follow-up)

Following the university regulations regarding the selection of the scientific supervisor and his/her responsibilities, as well as the procedures/ mechanisms of the scientific supervision and follow-up

3. **Project Defense/ Examination:**

(The regulations for selection of the defense/examination committee and the requirements to proceed for thesis defense, the procedures for defense and approval of the thesis, and criteria for evaluation of the **project**)

Following the University regulations regarding the requirements to proceed for project examination and approval of the project, and criteria for its evaluation.

D. Student Admission and Support:

1. Student Admission and Transfer Requirements, and Courses Equivalency

Following the university regulations regarding Student Admission

2. Student Counseling Services

(academic, career, psychological and social)

The academic advisor meet the student at least 2 hours /week and discuss with him any academic, career, psychological and social problems and try to solve them.

Selection of Mentor for each student to explain and counsel him for selection of the title of the thesis, who to conduct the research , methodology and data collection

- One or two supervisors per thesis
- One meeting a week with the candidate (or more if there is a need)

3. Support for Special Need Students

(low achievers, disabled, gifted and talented)

Low achievers are referred to the academic advisory for their help and support.

Gifted and talented students are awarded by the college administration.

E. Teaching and Administrative Staff

1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professors		2		2	0	1
Associate Professors		2		2	0	2
Assistant Professors	2	7		5	4	9
Technicians and Laboratory Assistants		4		2	2	4
Administrative and Supportive Staff	3		-	2	1	3
Others (specify)	-	-				

2. Professional Development

2.1 Orientation for New Teaching Staff

Describe briefly the process used for orientation of new, visiting and part-time teaching staff

The College quality assurance unit prepare an orientation program for the new teaching staff and the university arrange for similar program for orientation

- At the level of the University: At the beginning of each year an orientation program is held to welcome the new teaching staff. The program includes an introduction about the university, Faculty affairs, Quality Assurance and Research opportunities. The program also includes a tour of the university and College facilities.
- At the level of the College: New teaching staff is provided with orientation session by the Quality Assurance Unit. The session includes introduction about the college, mission, vision, program goals, objectives and outcomes. Also it includes information about their responsibilities for teaching, research, community services and other administrative tasks.
- Providing the new teaching staff with the College Handbooks

2.2 Professional Development for Teaching Staff

Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

The College CPD unit arrange for workshops for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development)

- All teaching staff prepare their annual professional development plan according to their needs

- The Deanship of Academic Development conducts regular training programs, workshops and short courses for teaching staff skill development throughout the semesters.
- The CPD Unit of the college organizes workshops/seminars to the teaching staff in their field of teaching specialty.
- All staff is encouraged to attend the workshops, Seminars, national and international conferences in their field of teaching specialty.

F. Learning Resources, Facilities, and Equipment

1. Learning Resources.

Policies and Procedure for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

- Both teaching staff and students acquire the required textbooks, reference and other resource from the main university library.
- At the beginning of each semester, students are given course schedules that contain information on the required reference materials.
- Any lecturer requiring additional new resource materials including electronic and web based materials not available in the library is expected to make a request for purchase through the office of the dean.
- Both teaching staff and students acquire the required textbooks, reference and other resource from the main university library.
- At the beginning of each semester, students are given course schedules that contain information on the required reference materials.
- Any lecturer requiring additional new resource materials including electronic and web based materials not available in the library is expected to make a request for purchase through the office of the dean.
- The teaching staff evaluate the usefulness of such materials and make the recommendations, the dean of the college discuss the acquisitions with the college council for final approval and make the request for the library staff of the university.

2. Facilities and Equipment

Policies and Procedure for providing and quality assurance of Facilities and Equipment (Library, laboratories, medical facilities, classrooms, etc.).

4 Classrooms, 4 laboratories and university central library are available for the students

3. Arrangements to Maintain a Healthy and Safe Environment (According to the nature of the program)

Following the College Lab Safety rules and instructions.

G. Program Management and Regulations

1. Program Management

1.1 Program Structure

(including boards, councils, units, committees, etc.)

1. **Program Organizer: Dr Ahmed Alhowail (Assistant Professor and Vice Dean for students affairs)**
2. **Pharmacology and Toxicology Department Council**
3. **Curriculum and Assessment Committee**
4. **Quality assurance unit**
5. **Student Affairs unit**
6. **The Dean**
7. **College of Pharmacy Council**

1.2 Stakeholders' Involvement

Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)

- **The college established Advisory Board for its programs.**
- **The members have been selected based on their experiences in different areas related to the Pharmacy field.**
- **The Advisory Board conducts 2-3 meetings per year.**
- **The major function of the Advisory Board includes is the revision and monitoring of the college strategic plan and the performance of the academic programs.**
- **The program seeks students' feedback through survey**
- **The program seeks alumni feedback through survey**
- **The program seeks employers' feedback through survey**

2. Program Regulations

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)

Following the University postgraduate rules and regulations regarding admission, study and exams, recruitment, appeals and complaint regulations, etc.)

<https://gsd.qu.edu.sa/>

<https://gsd.qu.edu.sa/files/shares/DeanshipDocs/HighStudRules.pdf>

<https://gsd.qu.edu.sa/files/shares/DeanshipDocs/DalilPhdMS.pdf>

<https://gsd.qu.edu.sa/files/shares/DeanshipDocs/ProDalil.pdf>

<https://gsd.qu.edu.sa/files/shares/StudentForms/StuStudyGuide.pdf>

<https://gsd.qu.edu.sa/files/shares/StudentForms/Dalil.pdf>

No.	PLOs	Time	Person responsible
1	Describe the various classes of drugs.	First semester 1442-1443 H	Faculty members, program coordinator and head of department
2	Describe the physiological roles of neurotransmitters in behavior and their relevance to specific neurological and psychiatric disorders.	First semester 1442-1443 H	Faculty members, program coordinator and head of department
3	Memorize the various mechanisms of drugs used in treatment of diseases.	First semester 1442-1443 H	Faculty members, program coordinator and head of department
4	Explain the rationale for the usage of animal models in drug discovery and Identify alternatives for animal models.	First semester 1442-1443 H	Faculty members, program coordinator and head of department
5	Explain the different methods of instrumental and statistical analyses used in pharmacological research.	First semester 1442-1443 H	Faculty members, program coordinator and head of department
6	Identify the recent advances in pharmacology.	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
7	Identify the first drug of choice and alternatives in the treatment of selected disease	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
8	Monitor the efficacy and adverse effects of drugs used in the treatment of selected diseases	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
9	Describe the various aspects of scientific writing and publications	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
10	Analyze the literature information and relate it to problem solving in pharmacology	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
11	Expect the relative risks and benefits of commonly used drugs	First semester 1442-1443 H	Faculty members, program coordinator and head of department
12	Design the protocol for the pharmacological evaluation of drugs and analyze and interpret the significance of drug responses	First semester 1442-1443 H	Faculty members, program coordinator and head of department
13	Perform pharmacological screening methods and Interpret the results of instrumental, biomedical and statistical analyses	First semester 1442-1443 H	Faculty members, program coordinator and head of department
14	Design a therapeutic and monitoring plans for the treatment of selected diseases	First semester 1442-1443 H	Faculty members, program coordinator and head of department
15	Work effectively with others as a member of a team or other professional group	First semester 1442-1443 H	Faculty members, program coordinator and head of department

16	Choose appropriate analytical and statistical methods while conducting pharmacological experiments	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
17	Prepare and make oral or written presentations in the form of seminar or in other scientific forms.	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
18	Apply statistical methods (using software) to analyze scientific data and make inferences.	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
19	Perform a wide range of pharmacological experiments including In-vivo and in vitro experiments	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
20	Identify known or unknown active principles and demonstrate their pharmacological and toxicological profiles	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
21	Write research protocols independently and communicate with professional bodies	Second semester 1442-1443 H	Faculty members, program coordinator and head of department
22	Show self-learning and conduct independent and effective research /study	Second semester 1442-1443 H	Faculty members, program coordinator and head of department

H. Program Quality Assurance

1. Program Quality Assurance System

Provide online link to quality assurance manual

<https://pharmacy.qu.edu.sa/files/shares/Booklets%20&%20Manuals/%D9%83%D8%AA%D8%A7%D8%A8%20%D8%A7%D9%84%D8%AC%D9%88%D8%AF%D8%A9.pdf>

2. Program Quality Monitoring Procedures

<ul style="list-style-type: none"> • Students' understanding and academic performance are measured by conducting on going evaluation. This include exams, presentations, assignment • Feedback from the employers • Feedback from the students • Feedback from the head of departments • Advice on consistency with learning theory for different types of learning provided by head of departments to the faculty members • Refer to quality assurance manual and Administration Handbook
3. Arrangements to Monitor Quality of Courses Taught by other Departments.
<p>The department will formulate a committee to revise and ensure the consistency of course content and learning outcomes with intended learning outcomes of the program. There will be periodic review of need for these courses to ensure the maximum compliance of the program.</p>
4. Arrangements Used to Ensure the Consistency between Main Campus and Branches (including male and female sections)
<ol style="list-style-type: none"> 1. The course specification, syllabus and course learning outcomes are common in both male and female sections. 2. The facilities and equipment's regarding the classrooms, labs and library are the same in both male and female sections. 3. Qualified faculty members are available in both male and female sections
5. Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships (if any).
Not applicable
6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes
<div style="border: 1px solid black; height: 40px;"></div>

7. Evaluation of Program Quality Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of teaching	students, graduates	Survey	end of academic year, after graduation
Learning resources	students, graduates	Survey	end of academic year, after graduation
Learning resources	students, graduates	Survey	end of academic year, after graduation

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, partnerships, etc.)

Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify))

Evaluation Methods (e.g., Surveys, interviews, visits, etc.)

Evaluation Time (e.g., beginning of semesters, end of academic year, etc.)

8. Program KPIs*

The period to achieve the target (2) years.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	KPI-P-02	Students' Evaluation of quality of learning experience in the program	3	Survey	End of academic year
2	KPI-P-03	Students' evaluation of the quality of the courses	3	Survey	End of academic year
3	KPI-P-04	Completion rate	70%	Proportion of undergraduate students who completed the program in minimum time in each cohort	End of the program
4	KPI-P-05	First-year students retention rate	100%	Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year	End of first academic year
5	KPI-P-08	Average number of students in the class	5	Average number of students per class (in each teaching session/activity: lecture, small group, tutorial, laboratory or clinical session)	Beginning of academic year
6	KPI-P-09	Employers' evaluation of the program graduates proficiency		Survey	End of academic year
7	KPI-P-10	Students' satisfaction with the offered services	3.5	Survey	End of academic year

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
8	KPI-P-11	Ratio of students to teaching staff	1:1	Ratio of the total number of students to the total number of full-time and fulltime equivalent teaching staff in the program	Beginning of academic year
9	KPI-P-12	Percentage of teaching staff distribution		Percentage of teaching staff distribution based on: a. Gender b. Branches c. Academic Ranking	Beginning of academic year
10	KPI-P-13	Proportion of teaching staff leaving the program	0	Number of teaching staff leaving the program in certain year divided by the total number of the teaching staff in the same year	End of academic year
11	KPI-P-14	Percentage of publications of faculty members		Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program	End of academic year
12	KPI-P-15	Rate of published research per faculty member		Total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year	End of academic year
13	KPI-P-16	Citations rate in refereed journals per faculty member		Total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published	End of academic year
14	KPI-P-17	Satisfaction of beneficiaries with the learning resources	3	Survey	End of academic year

* including KPIs required by NCAAA

I. Specification Approval Authority

Council / Committee	DEPARTMENT COUNCIL, QUALITY ASSURANCE UNIT, COLLEGE COUNCIL
Reference No.	
Date	