هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TPG-151

Program Specification
(Postgraduate)

Program Name:	**Master of Science**
Program Code (as per the Saudi Standard Classification of Educational Levels and Specializations):	**747**
Qualification Level:	7 (SEVEN)
Department:	Mathematics
College:	College of Science and Humanities in Alkharj
Institution:	Prince Sattam Bin Abdulaziz University
Program Specification:	New ☒ updated* ☐
Last Review Date:	Aug 2024

*Attach the previous version of the Program Specification.

Table of Contents

A. Program Identification and General Information:

1. Program's Main Location:

Prince Sattam Bin Abdulaziz University Main Campus

2. Branches Offering the Program (if any):

NIl

3. System of Study:

✓ Coursework & Thesis	☐ Coursework

4. Mode of Study:

✓ On Campus	☐ Distance Education	☐ Other ……(specify)

5. Partnerships with other parties (if any) and the nature of each:

- Partnership Arrangement: Nil
- Type of Partnership: Not Applicable
- Duration of Partnership: Not Applicable

6. Professions/jobs for which students are qualified:

121310 – Planning and Development Manager
212001 – Mathematics Science Specialist
231017 – Mathematics and Statistics Professor
233012 – Secondary Teacher of Mathematics
233033 – Intermediate Level of Math teacher
234101 – Primary School teacher
234108 – Primary School Math and Science Teacher
331402 – Mathematics Assistant
Zero Group – Armed Forces Officer

7. Relevant occupational/ Professional sectors:

121 – Business Services and Administration
212 – Mathematics, Actuaries and Statistical Professionals
231 – Teaching Professionals
234 – Primary School Teachers
331 – Financial and Mathematical Associate Professionals

8. Major Tracks/Pathways (if any): NIL

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
1. Not Applicable	Not Applicable	Not Applicable

9. Total credit hours: (36) – (30 hours of Course work and 6 hours thesis)

B. Mission, Goals, and Program Learning Outcomes

1. Program Mission:
To produce competent postgraduates who can disseminate their mathematical knowledge and understanding and serve the job market and community by providing a stimulating academic and research environment
2. Program Goals:
1. Providing in-depth knowledge of advanced mathematical theories and its applications 2. Preparing postgraduates who can conduct research or undertake professional projects in the field of mathematics. 3. Producing Postgraduates who can disseminate their mathematical knowledge in various forms. 4. Preparing the students to serve the community by pursuing a career in the field of mathematics and related fields.

3. Program Learning Outcomes:*	
Knowledge and Understanding:	
K1	Demonstrate understanding of advanced Mathematical concepts, Principles and theories and their applications
K2	Describe various definitions and theorems and identify the underlying mathematical concepts.
K3	Identifying relevant research problems in the field of mathematics and describe suitable algorithms.
Skills:	
S1	Apply appropriate theories, principles and concepts to solve mathematical problems using various techniques.
S2	Carryout research in the field of mathematics.
S3	Exhibit oral and written scientific or technical communication skills.
Values, Autonomy, and Responsibility:	
V1	Work effectively exhibiting integrity and professional value to the assigned task.
V2	Conducting scholarly or professional activities in an ethical manner

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

C. Curriculum:

1. Curriculum Structure:

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Course	Required	8	24	66.66%
	Elective	2	6	16.67%
Graduation Project (if any)	--			
Thesis (if any)	Required	1	6	16.67%
Field Experience(if any)	--	--	--	--
Others (.....)	--	--	--	--
Total		11	36	100%

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

2. Program Courses:

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	Math 620	Differential Equations	Required	--	3(3,0,0)	Program
	Math 632	Linear Algebra	Required	--	3(3,0,0)	
	Math 610	Research Methodology	Required	--	3(3,0,0)	
	Math 629	Complex Analysis	Required	--	3(3,0,0)	
Level 2	Math 633	Numerical Analysis	Required	--	3(3,0,0)	
	Math 639	Selected Topics in Discrete Mathematics	Required	--	3(3,0,0)	
	Math 615	Partial Differential Equations (I)	Required	--	3(3,0,0)	
	Math XXX	Elective course	Elective	--	3(3,0,0)	
Level 3	Math XXX	Selected Topics in Applied Mathematics	Elective	--	3(3,0,0)	
	Math xxx	Elective Course	Elective	--	3(3,0,0)	
Level 4	Math 699	Thesis	Required		6(6,0,0)	

* Include additional levels (for three semesters option or if needed).
** Add a table for the courses of each track (if any)

3. Course Specifications:

Insert hyperlink for all course specifications using NCAAA template (T-104)

Course Specifications

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.	Knowledge and understanding			Skills			Values, Autonomy, and Responsibility	
	K1	K2	K3	S1	S2	S3	V1	V2
Math 620	P	P		P				
Math 632	P		P	P				
Math 610	P	P	P	P	P	P	P	P
Math 629	P		P	P		P	P	
Math 629	P	P		P	P			P
Math 633	P		P	P		P	P	
Math 639	P	P		P	P			P
Math 615	M			M				
Math 611	M			M			M	
Math 621	M	M		M		M	M	
Math 616	M		M	M				M
Math 699	M	M	M	M	M	M	M	M
Electives								
Math 613	M		M	M			M	
Math 616	M	M		M			M	M
Math 619	M	M		M	M		M	M
Math 626	M		M	M				
Math 627	M	M	M	M			M	
Math 630	M	M	M	M	M	M	M	

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

5. Teaching and learning strategies applied to achieve program learning outcomes:

Describe teaching and learning strategies, to achieve the program learning outcomes in all areas.

Based on the nature of courses, the teaching and learning strategies are set. The cognitive skills development courses have exercise hours to do. Postgraduates are assigned group and individual tasks, the postgraduate students are trained in group dynamics. For all courses except Thesis, the teaching-learning strategies are mostly teacher-centered, but for interactive courses, these strategies are learner-centered. Students are given take home assignments, and activities as part of internal grading apart from periodical internal examinations such as quiz and mid term exams. Classwork gives postgraduate students opportunities to hone their higher cognitive thinking and self-learning skills

Faculty –centric strategies:

– Lectures
– Online classes
– Group discussion / seminars
– Doubt clearing session during faculty office hours

Student-centric strategies:

- Problem solving based learning.
– Homework
– Small Group discussion
– Students' feedback (surveys)
– Classwork
– Research-based assignments
– Collaborative learning

6. Assessment Methods for program learning outcomes:

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

The program should devise a plan for assessing Program Learning Outcomes (all learning outcomes should be assessed at least once in the program's cycle).

The M.Sc Mathematics Program uses multiple and continuous assessment methods to verify students' learning. This includes a wide range of rubric based assessment tools, including direct and indirect assessment methods.

Direct Assessment Methods:

Direct methods of evaluating student learning provide tangible evidence that a student has acquired a skill, demonstrates a quality, understands a concept, or holds a value tied to a specific outcome. They answer the question, "What did students learn as a result of this (assignment/project/exam…)?"and "How well did they learn?" Direct methods result in student "products" like term papers or performances. The following are the direct methods used to assess the PLOs. –

Faculty-developed exams or assignments

Take home assignment/tests

Thesis and its Defense

All above mentioned direct methods are used according to the requirement of the courses to obtain the CLOs. Course Learning Outcomes (CLOs) Assessment of CLOs is a key step before the assessment of PLOs. CLOs are aligned with the PLOs in course specifications. At the end of each term, CLOs of all master courses are analyzed with the help of a specific rubric.

Indirect Assessment Methods:

Course Reports (CRs) submitted by Course Instructors:

The CRs reflect the achievement of the CLOs. CRs also describe the reasons for low achievement of the CLOs (if any). It ends with an action plan to improve the deficiency of in teaching-learning issues.

KPI Analysis

The Quality and Academic Accreditation Unit of the Department of Mathematics analyses various Key Performance Indicators as per the reports given by the Higher Education Committee of the Department

Annual Program Report (APR): The APR reflects the data obtained throughout the academic year. The QA Unit compiles the results of various analysis such as KPIs, CLOs etc and present in the APR making SWOT Analysis and preparing an action plan to improve the program delivery and attainment of targets, in consultation with the Higher Education Committee.

D. Thesis and Its Requirements (if any):

1. Registration of the thesis:

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

Requirements and Procedures:

1. In order to register for Thesis, the graduate student must have successfully completed the course work of all courses successfully.
2. The graduate student has the option to choose the supervisor of his choice. However, the Head of the Department will allocate the supervisor in consultation with the coordinator of Higher Education Committee of the Department.
3. The student in consultation with the allocated research supervisor selects the topic and makes a formal application to the competent authority for consideration and approval.
4. Once approved, the graduate student registers the title in the National Library to avoid duplicate work.

Responsibilities and Procedures for Scientific Guidance:

1. The Research Supervisor, advises the student on the research methodology to be adopted.
2. The Supervisor periodically interacts with the student and provide guidance with regard to collection and review of literature, identifying the research problem and its solution.

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)

Appointment of Supervisor:

1. The Research Supervisor must be a doctorate degree holder holding an academic rank of Assistant Professor and above. However, in case of the supervisor being an Assistant Professor, he must have published at least 2 publications after appointed as Assistant Professor and immediately before the appointment as Thesis Supervisor.

Responsibilities:

1. The Supervisor is responsible for the quality of the research being undertaken by the graduate student and the output.

2. The Supervisor advises the student from time to time and help the students in case of any hardship in research.
3. The Supervisor must make a record of the progress of research by the graduate student from time to time.
4. The Supervisor must ensure that atleast one paper is published/accepted in a scientific journal before submission of the thesis.
5. On completion of preparation of the thesis by the student, the supervisor reviews for any correction and modification and recommends the names of examinations for the evaluation of thesis and defense.

3.Thesis 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 thesis)

1. The Thesis evaluation committee is formed comprising of three examiners – (Supervisor and two other examiners).
2. The thesis evaluation committee is approved in the Department Council, College Council and approved by the Higher Studies Committee of the University.
3. On approval, the supervisor forwards the thesis to the examiners for their evaluation and comments and a suitable date for defense is notified.
4. On the date of defense, the graduate student makes a presentation on his/her work before the audience and responds to their queries.
5. After the open defense, the graduate student defends the thesis in private before the Committee.
   Criteria for evaluation:
   The committee considers the following aspects:
   (a) Originality of Research
   (b) Research Methodology
   (c) Past work done in the area
   (d) Reporting of the derived results
   (e) Scope for further research

(f) Presentation by the student and the defense on the questions raised by the committee members.

Notification of the Outcome:

On completion of the defense, the Chairman of the Committee prepares a report signed by all three members and reads in the open house whether or not the Thesis could be considered for award of Master Degree before the audience.

H. Student Admission and Support:

1. Student Admission Requirements:

– The candidate must be a Saudi national or a non-Saudi who has obtained an official scholarship through one of the cultural exchange programs.
– The candidate must hold a B Sc degree in Mathematics or Mathematics education (or its equivalent) from any university recognized by the MOE either inside or outside the Kingdom of Saudi Arabia.
– The candidate must have a GPA of (3.25) out of (5) at the bachelor's degree level as a minimum to be admitted in the program
- The candidate must have English proficiency or passed English Test.
– The candidate must not have previously been dismissed from any university for disciplinary or academic reasons.
– The candidate must pass the written test and a personal interview held by the Department of Mathematics.
– The candidate must have the approval of the employer if he/she works in either the government sector or the private sector

2. Guidance and Orientation Programs for New Students:

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

The department an orientation session for the new students in the Program to make the students aware of the academic and administrative rules and regulations in the Program and the College. The students are also provided with handouts / handbook detailing the course and program requirements for successful completion of the program.

3. Student Counseling Services:

(Academic, professional, psychological and social)

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level)

Academic and Professional:
The Higher studies committee of the department looks after the academic advising of the graduate students such as selection of courses, registration, course requirements etc. Their responsibilities of the academic advisors are:
-Advise postgraduate students and address their academic concerns.
– Follow and report student progress via advising checklist sheet.
- Participate in orientation and advising services.
- Assist postgraduate students in selecting suitable senior projects and supervisors.
- Check fulfillment of graduation requirements
- The research supervisor guides the students in conduct of research, preparation of thesis and its defense
- In the professional front, the advisors help the student to pursue higher degree such as Ph D or assist in getting jobs. In case of employed students, the advisors assist in getting support from their employer so that the study is not affected.
Psychological and Social Guidance:
The Institution has formed separate units to provide Psychological and social guidance to the students.

4. Special Support:

(Low achievers, disabled, , and talented students).

The following activities are conducted in such cases.
Low Achievers:
– Counseling

– Objects are defined.
– Sense of responsibility
– Self-reflection is encouraged.
– Motivation
– Peer teaching
– Track progress
– Feedback The activities include meetings between students with low academic levels and the Program management to find out problems for students; holding additional lectures for students to solve their academic problems; and holding workshops to develop students' skills.

Disabled Students:

– Disabled parking bays are nearest to the student reception to provide easy access to the building
– All classrooms are accessible by wheelchairs.
– Toilets are adapted for disabled users.
– Accessible study material in a variety of format to suit their requirements.
– Specially designed exams are prepared under standard conditions (e.g., extra time, objective tests, alternative formats, etc.) for the disabled students, in both midterm and Final Exams

Gifted and talented Students:

– Participation of students in cultural and scientific activity at the university level.
–-Holding training courses for students in their field of specialization.
– Holding workshops to develop students' skills.

E. Faculty and Administrative Staff:

1. Needed Teaching and Administrative Staff:

The following table is prepared based on three factors : (a) Teaching load as per academic rank, (b) Maximum sanctioned strength of students for admission in a cohort (c) Courses offered in a term (d) Pyramidal structure of hierarchy.

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professor	4	4		4	4	8
Associate Professor	8	8		8	8	16
Assistant Professor	4	4	Must have published atleast two publications after appointment as Assistant Professor	4	4	8
Technicians and Laboratory Assistant	-	-		-	-	-
Administrative and Supportive Staff			--	1	1	2
Others (specify)	-	-	--	--	--	--

F. Learning Resources, Facilities, and Equipment:

1. Learning Resources:

Learning resources required by the Program (textbooks, references, and e-learning resources and web-based resources, etc.)

The Course instructors give the list of reference text books / literature for their respective courses. Apart from that the following support is given by the college / university:

Access to SDL and University library.

– Subscriptions to papers and online periodicals

– The University has partnerships with electronic platforms, for educational purposes, such as Blackboard and Microsoft Office 365.

-Licensed free Mathematical Software such as MATLAB etc.

2. Facilities and Equipment:

(Library, laboratories, classrooms, etc.)

Classroom equipped with smartboard, internet connectivity for delivery of lectures.

Dedicated computer lab for the students of mathematics department.

Exclusive office room for faculty with IT facilities to provide academic and research guidance to students.

Meeting room in the department to hold seminars and small presentations.

3. Procedures to ensure a healthy and safe learning environment:

(According to the nature of the program)

Classrooms and Laboratories are properly ventilated and also temperature is maintained through air conditioners throughout the year.

Proper safety and security is ensured in computer lab of the Mathematics Department.

Lecture halls and the blocks are provided with firefighting alarms and equipment

All lecture wings have emergency exit in case of any exigencies.

Hygiene is ensured in the toilet available in every wing

Fire fighting drill is conducted periodically both at college and institutional level.

G. Program Quality Assurance:

1. Program Quality Assurance System:

Provide a link to quality assurance manual.

Mathematics QMS

2. Program Quality Monitoring Procedures:

(a) Program Administration: At the College Level the Program is administered by the Dean of the College who is assisted by Vice Dean Academics, Vice Dean Quality, Higher Studies and Research, who have sufficient experience in administering academic programs. At the department level the Program is monitored by the Head of the Department who is assisted by the Department Council for making policy

decisions and submitting to competent authority for approval. The Department Council has various sub committees of which the Higher Studies Committee oversees various aspects of the programs and make recommendations to Department council on the same, for instance - curriculum and study plan structure, admission criteria for students, admission, registration of students, course and program delivery, review etc. (b) Program Quality Assurance : The Department of Mathematics has formed a Quality and Academic Accreditation Unit which looks after the Quality Assurance aspects of all programs offered by the Department including Master of Science in mathematics so that the offered programs are consistent with NQF etc. the guidelines issued by the accrediting authority such as ETEC/NCAAA. The QAAC formulates the Mission, Goals, Program Learning Outcomes and drafts the Program Specification. QAAC oversees various aspects of Quality Assurance such as guiding the faculty members to prepare the course learning outcomes and course specification (as per the NCAAA templates). At the end of each semester the Course Instructors submit the CLO Attainment analysis to the QAAC. QAAC evaluates the PLO Attainment from the CLO results submitted by the faculty members and prepares the PLO report. Apart from that the QAAC, Higher Studies Committee and the HoD interacts with various stakeholders of the Program such as students, faculty, employers through structured questionnaires and based on the derived results make SWOT Analysis and plan actions for improvement in program delivery.

3. Procedures to Monitor Quality of Courses Taught by other Departments:

Not Applicable

4. Procedures Used to Ensure the Consistency between within the main campus:

(including male and female sections).

The program is offered in two sections (Male and Female) and the contents of all courses, teaching and assessment methods are the same across both the sections. All rules and regulations mandating various process such as registration, addition/dropping of courses, passing criteria etc are common between both the sections. The Mid and Final Exams are common and the criteria for registration of thesis and procedure for conduct of research and defense of thesis is the same between the two sections. All students have access to all available resources. At the end of each semester, all students participate in evaluation of various aspects of program such as course and program delivery, offered services, Support for research etc., through survey conducted by the Quality and Academic Accreditation Unit of the Department of Mathematics.

5. Assessment Plan for Program Learning Outcomes (PLOs):

PLO Code	Knowledge	Assessment Method	Source of Data	Assessment Tool	Target	Assessment Cycle	Assessment Time	Responsibility
K1	Demonstrate understanding of advanced Mathematical concepts, Principles and theories and their applications	**Direct**	Math620	**Written exams Quiz Assignment Thesis report**	**All students must secure 75% marks and above.**	Every semester	Level 1	**Course coordinator**
			Math 632 Math 610 Math 629				Level 2	**Course coordinator**
			Math 633 Math 639 Math 615				Level 3	**Course coordinator**
			Math 611 Math 621 Math 616				Level 4	**Course coordinator**
			Math 699 Math 630 Math 626 Math 627				Electives	**Course coordinator**
		Indirect	Students	Evaluate students' quality of courses	3.5 from 5			**Course coordinator**
K2	Describe various definitions and theorems and identify the underlying mathematical concepts.	**Direct**	Math 620 Math 610	**Written exams, quizzes and assignment And Thesis report**	**All students must secure 75% marks and above.**	**Every Semester**	**End of Level 1**	**Course coordinator**
			Math 639				**End of Level 2**	**Course coordinator**
			Math 621 Math 619				**End of Level 3**	**Course coordinator**
			Math 699				**End of Level 4**	**Course coordinator**
		Indirect	**Students**	Evaluate students' quality of courses	**3.5 from 5**		**The end of 4th level**	**Quality unit**
	Identifying relevant research problems in the field of mathematics and describe suitable algorithms.	**Direct**	Math 632 Math 610 Math 629	**Written exams, quizzes and assignment**	**At least 50% of the students appearing in final**	**Every Semester**	**Level 1**	**Course coordinator**
			Math 633				**Level 2**	**Course coordinator**
			Math 616				**Level 3**	**Course coordinator**

K3					exam score 75% marks and above.	Every Semester	Level 4	Course coordinator
			Math 699				Elective	Course coordinator
			Math 626 Math 627					
		Indirect	Students	Evaluate students' quality of courses	3.5 from 5		Every semester	Quality unit

Skills		Assessment Method	Source of Data	Assessment Tool	Target	Assessment Cycle	Assessment Time	Responsibility
S1	Apply appropriate theories, principles and concepts to solve mathematical problems using various techniques	Direct	Math620 Math 632 Math 610	Written exams, quizzes and assignment	At least 50% of the students appearing in final exam score 75% marks and above.	Every semester	The end of 1st level	Course coordinator
			Math 629 Math 633 Math 639 Math 615 Math 611 Math 621 Math 616 Math 699 Math 630 Math 626 Math 627 Math 619				End of 3rd level	Course coordinator
							End of 4th Level	Course coordinator
							Electives	Course coordinator
		Indirect	Students	Evaluate students' quality of courses	3.5from 5		Every semester	Quality unit
S2	Carry out research in the field of Mathematics		Math 610 Math 639 Math 699 Math 619				End of Level 1 End of level 2 End of Level 4 Elective courses	Course coordinator Course coordinator
		Indirect	Students	Evaluate students' quality of learning experiences in the program	3.5 from 5		Every Semester	Quality unit
S3	Exhibit oral and written scientific or technical communication skills	Direct	Math 610 Math 629 Math 633 Math 621 Math 699	Written exams, quizzes and assignment	75%	Every semester	End of level 1 End of level 2 End of Level 3 End of Level 4	Course Coordinators
		Indirect	Students	Evaluate students' quality of courses	3.5 from 5		Every Semester	Quality unit

Values		Assessment Method	Source of Data	Assessment Tool	Target	Assessment Cycle	Assessment Time	Responsibility
V1	Work efficiently exhibiting integrity and professional value to the assigned task	Direct	Math 610 Math 629 Math 633 Math 611 Math 621 Math 699	Project, Thesis, Presentation Oral Discussion Assignment Value based Questions	75%	Every semester	End of Level 1 End of Level 2 End of Level 3 End of Level 4	Course Coordinator

			Math 627 Math 619				**Elective courses**	
		Indirect	**Students**	Evaluate students' quality of courses	**3.5 from 5**		**Every Semester**	**Every Semester**
V2	Conducting scholarly or professional activities in an ethical manner.	**Direct**	Math 610	**Group Project Group Assignment Presentation Brainstorming**	**75%**	**Every semester**	**End of Level 1**	**Course Coordinator**
			Math 639				**End of Level 2**	
			Math 616				**End of Level 3**	
			Math 699				**End of Level 4**	
		Indirect	**Students**	Evaluate students' quality of courses	**3.5 from 5**		**Every semester**	**Quality unit**

Other Evaluation Methods:

Type of Assessment	Source /Assessor	Tool	Target	Assessment cycle
Indirect	Student	**Evaluate students' quality of learning experiences in the program**	3.5 in 5 point scale	Atleast once per cohort
Indirect	Alumni	Survey of Alumni	3.5 in 5 point scale	Once a Year
Indirect	Employers	Quality of performance of the program graduates	3.5 in 5 point scale	Once a year

6. Program Evaluation Matrix:

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of Teaching	Students Faculty Program Leaders	Survey of Students and Faculty Members Peer Review	End of the Semester Middle of Semester
Learning Resources	Students and Faculty Graduates	Survey Program Evaluation	End of Semester
Facilities and Equipment	Graduates, Students and Faculty	Survey and Interview	End of Semester
Academic Advising	All Students	Survey and Interview	End of Semester
Leadership	Faculty	Survey	At least once a year
Feedback on graduates	Employers	Survey	At least once per cohort

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, services, partnerships, etc.)
Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others.
Evaluation Methods (e.g., Surveys, interviews, visits, etc.)
Evaluation Time (e.g., beginning of semesters, end of the academic year, etc.)

7. Program KPIs:*

The period to achieve the target (4) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-P-01	Students' Evaluation of Quality of learning experience in the program	3 in 5 point scale	Indirect (Survey)	Once per cohort
2	KPI- PG-2	Students' evaluation of the quality of the courses	3 in 5 point scale	Indirect (Survey)	Every Semester
3	KPI- PG-3	Students' evaluation of the quality of academic supervision	3 in 5 point scale	Indirect (Survey)	Every Semester
4	KPI- PG-4	Average time for students' graduation	3 years	Direct Cohort Analysis	Cohort Analysis
5	KPI- PG-5	Rate of students dropping out of the program	10%	Direct	Every semester
6	KPI- PG-6	Employers' evaluation of the program graduates' competency	3 in 5 point scale	Indirect (Survey)	Once per cohort
7	KPI- PG-7	Students' satisfaction with services provided	3 in 5 point scale	Indirect (Survey)	Once per cohort
8	KPI- PG-8	Ratio of students to faculty members	2:1	Direct (Eregister)	Every Year
9	KPI- PG-9	Percentage of publications of faculty members	At least 1 publication per faculty member participating in the Program	Direct	Annual
10	KPI- PG-10	Rate of published research per faculty member	5 per faculty member participating in the program	Direct	Annual
11	KPI- PG-11	Citations rate in refereed journals per faculty member	100 per faculty member participating in the program	Direct	Annual
12	KPI- PG-12	Percentage of students' publication	At least one published paper per student	Direct	Per cohort
13	KPI- PG-13	Number of patents, innovative products, and awards of excellence	At least 1 award per cohort	Direct	Annual
P-14	KPI-PG-14	Percentage of Attainment of Operational Plan objectives	80%	Direct and Indirect	Once per cohort

* Note P-14 is the Program KPI introduced from AY 1444 onwards.

H. Specification Approval Data:

Council / Committee	Department Council Meeting
Reference No.	Item No.
Date	03 Sep 2024