Program Specification

(Bachelor)

Program: **Bachelor of Science in Actuarial and Financial Mathematics (BSc AFM)**
Program Code (as per Saudi university ranking): **054203**
Qualification Level: 6
Department: **Mathematics and Statistics**
College: **Science**
Institution: **Imam Mohammad Ibn Saud Islamic University**
Program Specification: **New** ☒ **Updated*** ☐
Last Review Date: **N.A.**

*Attach the previous version of the Program Specification.

Table of Contents

A. Program Identification and General Information

1. Program's Main Location:
Main Campus.
2. Branches Offering the Program (if any):
None.
3. Partnerships with other parties (if any) and the nature of each:
None.
4. Professions/jobs for which students are qualified (https://eservices.masar.sa/UCG/"#)
• **242305 Compensation Specialist.** • **241312 Government Revenue Specialist.** • **241109 Inventory Control Specialist.** • **241304 Financial Investigator.** • **421101 Moneylender.** • **241104 Treasurer.** • **241106 Financial Controller.** • **241101 Accountant.** • **232001 Professional Trainer.** • **412001 Manager Assistant.** • **212003 Statistician.** • **212002 Actuarial Specialist.** • **331404 Statistician Assistant.** • **241306 Insurance Specialist.**
5. Relevant occupational / Professional sectors:
• **Banking sector.** • **Insurance sector.** • **Human Resources.** • **Financial Analysis sector.** • **Statistics sector.** • **Professional Training/Education sector.**
6. Major Tracks/Pathways (if any): N.A.

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)

7. Exit Points/Awarded Degree (if any):	
exit points/awarded degree	**Credit hours**
Diploma of Science in Statistics	**87** **After the completion of at least 87 credit hours where at least 31 hours should be from statistical/economical courses (course code STA and ECO)**

Exit Point Professional Occupations/Jobs
• **331404 – Practitioner Statistical Assistant.** • **331401 – Practitioner Statistical controller.** • **331406 – Medical statistical Technician.**
8. (Program) Total credit hours:
174 Credit Hours

B. Mission, Objectives, and Program Learning Outcomes

1. Program Mission:

The mission of the undergraduate program in Actuarial and Financial Mathematics is to provide students with the necessary skills and knowledge to contribute to the socioeconomic development of the Kingdom of Saudi Arabia. Furthermore, the program aims to foster advancements in higher education within the subject of Actuarial Sciences and its practical implementations.

2. Program Objectives:

PG1. Demonstrate favorable dispositions, both in terms of national and institutional principles, regarding the field of actuarial sciences, with the aim of making a meaningful impact on a progressively evolving society.

PG2. Develop a strong ability to analyze and evaluate information, excel in finding solutions to complex problems, and effectively convey actuarial science principles and their applications address real-world challenges.

PG3. Sustain an essential knowledge of actuarial expertise following advancements in technology in order to establish a strong basis for continuous learning in the years to come.

PG4. Demonstrate an adequate set of professional abilities to guarantee a successful career in the field of actuarial sciences.

PG5. Promote students' creative potential through research.

3. Program Learning Outcomes*

Knowledge and Understanding	
K1	**Explain principles and methods of mathematics, statistics economics and finance.**
K2	**Demonstrate proficiency in using actuarial and financial software in analyzing complex data.**
K3	**Describe models of actuarial problems using concepts and theories of Actuarial and Financial Mathematics.**
Skills	
S1	**Identify, formulate and solve complex problem of actuarial science using standard techniques of actuarial modelling.**
S2	**Assess financial risks in the insurance and finance fields, forecast the financial impact of uncertain future events and identify strategies to reduce the possibility of unfavorable outcome.**
S3	**Communicate, argue and defense on the work effectively both orally and in writing in actuarial and financial mathematics related topics.**
Values, Autonomy, and Responsibility	
V1	**Work effectively as an individual, in teams on actuarial science related issues together with the capacity to undertake lifelong learning.**
V2	**Respect confidentiality, internal processes, policies and professional standards and solve conflict of interest problems in actuarial disciplines.**

* Add a table for each track or exit Point (if any)

Exit Point Program Learning Outcomes	
Knowledge and Understanding	
K1	**Understand principles, and concepts involved in applied statistics needed to enter the job force.**
K2	**A good working knowledge and understanding of processes, tools, methods, and practices based on some developments in applied statistics.**
Skills	
S1	**Apply the concepts, principles and theories involved in addressing issues and problems in a range of real life contexts.**
S2	**Critically evaluate knowledge and use it to provide solutions to some issues and problems in applied statistics.**
S3	**Practice statistical methods and analysis in investigating issues and case study research.**
S4	**Choose and use a digital technology, information, communication technology tools, and appropriate statistical software to process, analyze and produce data and information.**
Values	
V1	**Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.**
V2	**Self-evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.**
V3	**Lead teamwork with functional flexibility and effectiveness and take responsibility for professional development.**

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	1	2	1%
	Elective	12	24	14%
College Requirements	Required	5	20	11.5%
	Elective	0	0	0%
Program Requirements	Required	27	112	64%
	Elective	2	8	4.5%
Capstone Course/Project		1	4	2.5%
Field Training/ Internship		1	4	2.5%
Residency year		0	0	0%
Others		0	0	0%
Total		49	174	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 (Lec., Lab., Tut.l)	Type of requirements (Institution, College, or Program)
Level 1	MAT 1104	Calculus (1)	Required	None	5 (4, 0, 2)	College
	MAT 1152	Foundations of Mathematics	Required	None	5 (4, 0, 2)	Program
	ENG 1140	English (1)	Required	None	3 (2, 0, 2)	College
		University Requirement 1	Elective	None	2 (2, 0, 0)	Institution
Level 2	MAT 1105	Calculus (2)	Required	MAT 1104	5 (4, 0, 2)	College
	STA 1104	Probability & Statistics (1)	Required	MAT 1104	4 (3, 0, 2)	Program
	ENG 1195	English (2)	Required	None	3 (2, 0, 2)	College
		University Requirement 2	Elective	None	2 (2, 0, 0)	Institution
Level 3	MAT 1106	Calculus (3)	Required	MAT 1105	5 (4, 0, 2)	Program
	STA 1105	Probability & Statistics (2)	Required	STA 1104	5 (4, 0, 2)	Program
	MAT 1244	Math Software	Required	MAT 1105	3 (2, 2, 0)	Program
		University Requirement 3	Elective	None	2 (2, 0, 0)	Institution
Level 4	STA 1205	Mathematical Statistics	Required	MAT 1106	5 (4, 0, 2)	Program
	MAT 1224	Lin. Algebra & Diff. Equations	Required	MAT 1105	5 (4, 0, 2)	Program
	STA 1240	Statistical Packages	Required	STA 1105	4 (2, 2, 2)	Program
		University Requirement 4	Elective	None	2 (2, 0, 0)	Institution
Level 5	ECO 1206	Princ. of Microeconomics	Required	None	4 (3, 0, 2)	Program
	CS 1248	Comp. Program. for Science	Required	None	4 (3, 2, 0)	College
	STA 1221	Introduction to Regression	Required	STA 1205	4 (3, 0, 2)	Program
		Free Course	Elective	None	2	Institution

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours (Lec., Lab., Tut.l)	Type of requirements (Institution, College, or Program)
	QUR 1001	University Requirement 5	Required	None	2 (2, 0, 0)	Institution
Level 6	ECO 1207	Princ. of Macroeconomics	Required	None	4 (3, 0, 2)	Program
	MAT 1254	Intro. to Operation Research	Required	MAT 1224	4 (3, 0, 2)	Program
	STA 1222	Analysis of Var. for Actuaries	Required	STA 1221	4 (3, 0, 2)	Program
		University Requirement 6	Elective	None	2 (2, 0, 0)	Institution
Level 7	MAT 1374	Financial Mathematics	Required	MAT 1105	4 (3, 0, 2)	Program
	ACC 1319	Intro. to Fin. Accounting	Required	None	4 (3, 0, 2)	Program
	STA 1335	Stat. Methods for Actuaries	Required	STA 1222	4 (3, 0, 2)	Program
		University Requirement 7	Elective	None	2 (2, 0, 0)	Institution
Level 8	ACC 1320	Intro. to Manag. Accounting	Required	None	4 (3, 0, 2)	Program
	FIN 1331	Financial Management	Required	None	4 (3, 0, 2)	Program
	AFM 1333	Math. Fin. Derivatives	Required	MAT 1374	4 (3, 0, 2)	Program
		Free Course	Elective	None	2	Institution
		University Requirement 8	Elective	None	2 (2, 0, 0)	Institution
Level 9	AFM 1341	Actuarial Contingencies 1	Required	MAT 1374	4 (3, 0, 2)	Program
	STA 1352	Stochastic Proc. for Actuaries	Required	STA 1335	4 (3, 0, 2)	Program
	FIN 1334	Investments	Required	FIN 1331	4 (3, 0, 2)	Program
		University Requirement 9	Elective	None	2 (2, 0, 0)	Institution
Level 10	STA 1427	Time Series Analysis	Required	STA 1352	4 (3, 0, 2)	Program
	AFM 1451	Actuar. Risk Th. & Credibility	Required	STA 1335	4 (3, 0, 2)	Program
		Actuar. Elective Course 1	Elective	None	4 (3, 0, 2)	Program
	AFM 1452	Actuarial Lab 1	Required	MAT 1244	4 (3, 2, 0)	Program
Level 11	AFM 1453	Actuarial Lab 2	Required	AFM 1452	4 (3, 2, 0)	Program
	AFM 1442	Actuarial Contingencies 2	Required	AFM 1341	4 (3, 0, 2)	Program
		Actuar. Elective Course 2	Elective	None	4 (3, 0, 2)	Program
		Free Course	Elective	None	2	Institution
Level 12	AFM 1499	Research Project	Required	None	4	Program
	AFM 1497	Field Training	Required	None	4	Program
		University Requirement 10	Elective	None	2 (2, 0, 0)	Institution

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

LIST OF ELECTIVE COURSES

S	Course Code	Course Name	Credit Hours	Prerequisites
1	MAT 1445	Introduction to Numerical Optimization	4	MAT 1254
2	AFM 1411	Mathematical Modeling of Islamic Finance	4	
3	AFM 1412	Introduction to financial models	4	AFM 1333
4	AFM 1443	Pension Mathematics	4	AFM 1341
5	ECO 1414	Microeconomic Analysis	4	ECO 1206
6	ECO 1415	Macroeconomic Analysis	4	ECO 1207
7	AFM 1401	Selected Topics in AS & FM (1)	4	
8	AFM 1402	Selected Topics in AS & FM (2)	4	
9	MAT 1416	Real Analysis for Actuaries	4	MAT 1106
10	MAT 1446	Numerical methods for Actuaries	4	MAT 1224

University Requirements courses from (1) to (10)

University Requirements courses (1)-(10) should be chosen from the following packages and the following the appropriate rules indicated inside the table:

Packages	*Course Code*	*Course Name*	*Credit Hours*	*Rules*
Islamic knowledge and values	QUR 1001	Quran	2	The student chooses two courses, one of which should be the Quran course.
	HAD 1001	Studies in the Sunnah	2	
	JRS 1001	Objectives of Shariah	2	
	IDE 1001	Creed	2	
	JR 1001	Jurisprudence of Worship and Family	2	
Historical, national, and social knowledge and values	HST 1001	Studies in the Prophet's biography	2	The student chooses two courses.
	HST 1002	National History	2	
	SOS 101	Voluntary Work Skills	2	
	CUL 1001 CIS 101	Jurisprudence of Rights and Duties	2	
	GEO 1011	Environment and Sustainable Growth	2	

Packages	Course Code	Course Name	Credit Hours	Rules
Professional skills and labor market	RHB 1001	Work Value and Ethics	2	The student chooses two courses.
	BUS 1001	Innovation and Entrepreneurship	2	
	EDM 1001	Leadership Skills	2	
	FIN 1001	Financial Planning Skills	2	
	ENG 1001	English Language Skills	2	
Communicative and personal skills	BC 1001	Communications Skills	2	The student chooses two courses.
	ARB 1001	Linguistic Skills	2	
	ART 1001	Editing and Speech Skills	2	
	PSY 1001	Mental Health	2	
	BIO 1001	General Knowledge of Health Care	2	
Academic skills	TCM 1001	University Education Skills	2	The student chooses two courses.
	RHE 1001	Reading Skills	2	
	IT 1001	Technical Skills	2	
	EDP 1001	Thinking Skills	2	
	STA 1001	Basics of Statistics	2	

3. Course Specifications:

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

Courses Specifications link

University requirements link

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 and understanding			Skills			Values, Autonomy, and Responsibility	
	K1	K2	K3	S1	S2	S3	V1	V2
MAT 1104	I		I			I	I	I
MAT 1152	I		I			I		I
ENG 1140			I			I	I	
MAT 1105	I		I			I		I
STA 1104	I		I	I	I	I		I
ENG 1195			I			I	I	
MAT 1106	I		I			I		I
STA 1105	I		I	I	I	I		I
MAT 1244		I	I	I		I	I	
STA 1205	I	I		I	I	I	I	I
MAT 1224	I		I			I	I	I
STA 1240		P	P	P		P	P	
ECO 1206	I	I			I			I
CS 1248		I			I		I	
STA 1221	P	P	P	P	P	P		P
QUR 1001							P	P
ECO 1207	I	I			I			I
MAT 1254	P		P			P		P
STA 1222	P	P	P	P	P	P		P
MAT 1374		P	P	P	P	P	P	P
ACC 1319	I	I	I		I			I
STA 1335	P	P	P	P	P	P		P
ACC 1320	P	P	P		P			P
FIN 1331		P	P	P	P	P	P	P
AFM 1333		P	P	P	P	P	P	P
AFM 1341			P	P	P		P	P
STA 1352	M	M	M	M	M	M		
FIN 1334		M	M	M	M	M	M	M
STA 1427	M	M	M	M	M	M		M
AFM 1451		M	M	M	M			M
AFM 1452		M	M	M		M	M	
AFM 1453		M	M	M		M	M	
AFM 1442			M	M	M		M	M

Course code & No.	Program Learning Outcomes							
	Knowledge and understanding			Skills			Values, Autonomy, and Responsibility	
	K1	K2	K3	S1	S2	S3	V1	V2
AFM 1499		M	M	M	M	M	M	M
AFM 1497		M	M	M	M	M	M	M
MAT 1445	P		P			P		P
AFM 1411			M	M	M			M
AFM 1412			M	M	M			M
AFM 1443			M	M	M		M	M
ECO 1414	P	P			P			P
ECO 1415	P	P			P			P
AFM 1401			M	M	M		M	M
AFM 1402			M	M	M		M	M
MAT 1416	P		P			P		P
MAT 1446	P		P			P		P
Univ. Requirem.						I	I	I
Free Course						I	I	I

* 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, including curricular and extra-curricular activities, to achieve the program learning outcomes in all areas.

According to College Strategic Plan, graduates will be active learners and bilingual students, with a scientific, technological, Mathematics\Statistics\Actuarial & Financial Mathematics\Physics\Chemistry, background and ethical values. However, in order to achieve the Strategic Plan Goals, the College developed thirteen initiatives:

The department ensures teaching quality standards through the following actions:

- **At the beginning of each semester the syllabi, are given to the students, containing courses detailed information, method of evaluation and grades, etc.**
- **The courses distribution is done according to the specialities of faculty staff and their wishes.**
- **At the beginning of each semester two coordinators are nominated for each course, one in Female Branch and the other in Male Brach one, who are asked to communicate and coordinate between them.**
- **The duties of the course coordinator consist of:**
  - **Distribution of time according to the course contents.**
  - **The preparation of the exercise lists, the midterms, and the final exam.**
  - **The follow-up of good progress of the course in all the sections through the periodic meetings with course teachers and report.**

- **The evaluation of the teaching quality and benchmarking between parallel sections (groups) and the sections of the previous session of the same course.**
- **Collect the course report.**
- **Update the course folder.**
- **Annual report is prepared annually.**
- **Student surveys of all courses and program.**
- **Teaching staff evaluations of the program.**
- **Annual Faculty and Staff performance evaluation.**

Supports for student independent work:

There are many supports for the independent scientific work of the students and here are some of them:

1) ***Open Computer Labs*: The students can use these facilities to review independently a part of a course, to prepare a home work or an exam, or to access the (local) digital library;**
2) ***Digital library via open computer labs*: The students can access the (local) digital library to get free papers and theses. They read independently these resources and write reports on them;**
3) ***Materials provided via Blackboard classrooms*: The teachers use Blackboard classrooms to give students all kinds of materials related to the courses: syllabi, slides, list of exercises, solutions to exams and homework, etc... These materials can be used independently by students for a best management of the course;**
4) **At least six office hours provided by each teacher: Each teacher has to choose in his timetable at least six office hours in order to discuss all course issues with students;**
5) **Research or graduation project course: All programs have a research or graduation project. During this course, students have to work independently in order to write a report and to give an oral presentation at the end of the course;**
6) **Mini-projects and/or home works in some courses: The main goal of these assessment methods is to strength the independence work of students.**

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 twice in the bachelor program's cycle and once in other degrees).

Direct Assessment Methods:

- **D1. National, regional, or international exam results (developed outside the institution for use by a wide group of students using international, national, or regional norms).**
- **D2. Capstone Project or Course.**
- **D3. Satisfaction of students in entrance/exit surveys.**
- **D4. Performance (participation in campus and/or community events, volunteer work, presentations, internships, art performances, etc).**

D5. Percentage of success in in major courses (MAT, STA, AFM, ECO, and ACC courses).

Indirect Assessment Methods:

I1. Satisfaction of stakeholder surveys.

I2. Satisfaction of Program Advisory Committee.

I3. Average of the student's GPA.

D. Student Admission and Support:

1. Student Admission Requirements

The admissions take place only once on summer vacation, through the Unified E-Admission Portal at the public universities in Riyadh region. There are no admissions for the second semester. The application for admission is through the Unified E-admissions Portal for Students.

Students can apply for admission to IMSIU University through the Unified E-Admissions Portal for public universities in Riyadh region. In fact, it enables the applicant to fill the admission application electronically and to choose an academic major according to his/her certifications, grades and priorities determined by himself/herself without the need of his/her presence at the university.

According to his/her GPA, the student will be accepted directly into the scientific program that he/she wishes to enrol in.

The admission of students at university is part of the responsibility of the Deanship of Admission and Registration.

1. **Applicant must be holding a General Secondary Certificate or Secondary Certificate or equivalent from KSA or outside.**
2. **The applicant must be of good conduct and behaviour.**
3. **Applicant must be medically fit.**
4. **The applicant must obtain approval from his reference to study if he works in any governmental or private entity.**
5. **To successfully pass any test or personal interview deemed by the University Council.**
6. **Admission is limited to high school graduates from natural sciences track.**
7. **The calculation of compound ratios is computed as following:**

No	*Exam Type*	*Acceptance criterion (compound/equivalent ratio)*
1	**High school diploma**	**30%**
2	**General Aptitude Test (GAT)**	**30%**
3	**Academic Achievement Test**	**40%**

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 Actuarial and Financial Mathematical Program provides comprehensive orientation for new students. It holds an orientation week (organized by the college) for new students in the beginning of every academic year. During the orientation week, students have the opportunity to:

- **Meet other new students, current student leaders, faculty, and staff.**
- **Learn their way around campus.**
- **Find out about all the student services and academic programs at the University of Imam Mohammad Ibn Saud Islamic University.**
- **Address their individual needs and get their questions answered.**

During the orientation week, students are given manuals and brochures which help them to understand and to familiarize themselves with the university environment, programs, services, facilities, rights, and duties. In addition to the orientation week, an orientation meeting is held for new students at the beginning of each semester. In this meeting, new students are provided with the necessary information they need during their years of study. This meeting is attended by all the new students as well as the College Dean, Vice Dean for Academic affair and the department academic advisor. During this meeting, the chair of the department, the department's coordinator of academic advising and the department's coordinator of academic affairs address the new students and give them all the necessary academic information they need. Moreover, they answer all the questions raised by the students during the meeting. In addition, the University Deanship of Student Affairs provides new students with the necessary guidance and orientation programs.

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).

- **Student admitted to the bachelor program will be assigned an academic advisor, responsible for pastoral support, guidance and counseling.**
- **The academic advisor assists students in developing educational plans that are consistent with their life goals.**
- **The academic advisor provides students with accurate information about academic progression and degree requirement.**
- **The academic advisor assists students in understanding academic policies and procedures.**
- **The academic advisor assists students in overcoming educational, social, and personal difficulties.**
- **The lecturer for each course allocates 6 office hours per week advertised on his /her own timetable and reserved as part of his/her teaching schedule to help the students on any academic problems/difficulties.**

- **Student can get individual consultation and academic advice appointment with teaching staff via e-mail or phone calls.**
- **A list of teaching staff members with their room numbers, their phone numbers and their e-mail addresses are given in the Department website.**
- **University support services include careers, financial advice, housing, counseling etc.**
- **Excellent library facilities.**
- **University, college and department handbooks provide information about the course structure and University regulations etc.**
- **Feedback is provided for all assessments.**

4. Special Support

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

The Actuarial and Financial Mathematical Program (via the head of the department) and the University of Imam Mohammad Ibn Saud Islamic university provide care and support for the low achievers and the disabled students. Furthermore, the deanship for academic affairs has established a Center Special Needs Services (CSNS). As for the underachieving students, they are identified and provided with remedial programs to help them overcome the difficulties hindering their progress into the program. These students are distributed among the academic advisors at the department and are given due interest. They are met on regular basis by their academic advisors who are asked by the academic advising coordinator (after the coordination with the CSNS) to take an appointment. During these meetings, the students are provided with advice, and guidance to help the students make decisions, related to registration decisions, deletion, addition, grievance or even transfer to another program. Furthermore, the program has established the Student Academic Support Center (SASC) that offers several specialized courses for underachieving students, so that they can finish graduation requirements and catch up with their colleagues. These students are also offered several programs, lectures, and workshops on selected topics in which they can develop and strengthen their knowledge and language skills. This process of following up these underachieving students continues until their graduation.

Both program and institution pay due attention to students of special needs (e.g. disabled students). They are provided with special care. Their special needs are taken into consideration for the access of the building and specially during the exams.

For the gifted and talented students, the university has established a department for creativity and talent to identify and to develop the abilities of these students named Department of Gifted and Talented Care. This is achieved through holding several extracurricular activities to attract and to encourage the talented students to develop their abilities and gifts.

E. Faculty and Administrative Staff:

1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professor	Actuarial / Fin. Math	Applied/ Pure	None	5	3	8
Associate Professor	Actuarial / Fin. Math	Applied/ Pure	None	8	5	13
Assistant Professor	Actuarial / Fin. Math	Applied/ Pure	None	15	12	27
Lecturer	Statistics / Maths	Applied/ Pure	None	10	10	20
Teaching Assistant	Statistics / Maths	Applied/ Pure	None	10	10	20
Technicians and Laboratory Assistant	Comp. Science Lab Techni.	-	Computer hardware and software, including applications and programming.	2	2	4
Administrative and Supportive Staff	Admin.	-	Communic., Word processing, Data entry, Organization.	2	2	4
Others (specify)	None	None	None	0	0	0

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.)

For the planning and acquisition of learning resources, the department proceeds as follows:

STEP 1: For each course the department assigned a faculty members committee to do the followings:

- **Course description (preliminary syllabus),**
- **Recommend Lists of Required Textbooks, Essential References Materials (Journals, Reports, etc.), Recommended Textbooks and Reference Material (Journals, Reports, etc.), Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.), and other learning material such as computer-based programs/CD, professional standards or regulations and software.**

STEP 2: A committee collects learning resources of all courses and submits the required lists to the Head of the department to get the approbation of the department council.

STEP 3: After the department council approbation, the Department Head asks the College Dean to provide the Required lists of Learning Resources through the University Central Library and/or the IT Deanship.

2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

For the planning and acquisition resources for library, laboratories, and classrooms, the department proceeds as follows:

STEP 1: Evaluation of the locals assigned for the program: Library (equipped with textbooks and references provided by the Central Library), Laboratories (equipped with appropriate computers and software), and classrooms.

STEP 2: In the shortage case of supplies, a committee will report that to the Department Head in order to ask the College Dean to provide such supplies through the University Central Library and/or the IT Deanship.

3. Procedures to ensure a healthy and safe learning environment

(According to the nature of the program)

To maintain a healthy and safe environment in a university classroom, here are some arrangements that should be implemented and it is under the responsibility of the General Directorate of Technical Affairs at the university:

1. **Adequate Ventilation: Ensure proper ventilation in the classroom to maintain good air quality. Regularly clean and maintain air conditioning systems and provide proper ventilation to minimize the accumulation of dust and allergens. If possible, open windows to allow fresh air circulation.**

2. **Proper Lighting: Ensure that the classroom is well-lit with appropriate lighting to create a comfortable learning environment. Use natural lighting whenever possible and provide adjustable artificial lighting to accommodate individual preferences.**
3. **Comfortable Seating: Provide comfortable and ergonomic seating arrangements that support good posture and minimize discomfort. Regularly inspect and maintain chairs to ensure they are in good condition.**
4. **Classroom Layout: Arrange desks and chairs in a way that allows for adequate spacing between students. Consider maintaining physical distancing guidelines to minimize the risk of spreading illnesses.**
5. **Fire Safety Measures: Install smoke detectors, fire extinguishers, and fire alarms in the classroom. Clearly mark emergency exits and ensure they are easily accessible and unobstructed. Conduct regular fire drills to familiarize students and staff with evacuation procedures.**
6. **Electrical Safety: Regularly inspect electrical outlets, power cords, and other electrical equipment to ensure they are in good condition. Avoid overloading electrical circuits and encourage reporting of any electrical issues promptly.**
7. **Hygiene Practices: Promote good hygiene practices in the classroom, such as encouraging students and staff to clean their hands regularly. Provide hand sanitizers or handwashing facilities in accessible locations. Encourage proper respiratory etiquette, including covering coughs and sneezes with tissues or elbows.**
8. **Regular Cleaning: Implement a regular cleaning schedule for the classroom. Clean frequently touched surfaces, such as desks, chairs, door handles, and shared equipment. Use appropriate cleaning products and follow recommended protocols for disinfection.**
9. **Safety Training: Provide safety training to students and staff, including emergency procedures, evacuation drills, and awareness of potential hazards. Educate individuals about health and safety guidelines specific to the classroom environment.**
10. **Communication and Signage: Clearly communicate safety guidelines and protocols to students and staff. Display signage in visible locations to remind individuals of hygiene practices, physical distancing, and other safety measures.**

To maintain a healthy and safe environment in a university classroom, here are some arrangements that should be implemented and it is under the responsibility of the Deanship of Information Technology and E-Learning at the university:

1. **Adequate Ventilation: Ensure proper ventilation in the classroom to maintain good air quality. Regularly clean and maintain air conditioning systems and provide proper ventilation to minimize the accumulation of dust and allergens. If possible, open windows to allow fresh air circulation.**
2. **Proper Lighting: Ensure that the classroom is well-lit with appropriate lighting to create a comfortable learning environment. Use natural lighting whenever possible and provide adjustable artificial lighting to accommodate individual preferences.**
3. **Comfortable Seating: Provide comfortable and ergonomic seating arrangements that support good posture and minimize discomfort. Regularly inspect and maintain chairs to ensure they are in good condition.**
4. **Classroom Layout: Arrange desks and chairs in a way that allows for adequate spacing between students. Consider maintaining physical distancing guidelines to minimize the risk of spreading illnesses.**
5. **Fire Safety Measures: Install smoke detectors, fire extinguishers, and fire alarms in the classroom. Clearly mark emergency exits and ensure they are easily accessible and**

unobstructed. Conduct regular fire drills to familiarize students and staff with evacuation procedures.

6. Electrical Safety: Regularly inspect electrical outlets, power cords, and other electrical equipment to ensure they are in good condition. Avoid overloading electrical circuits and encourage reporting of any electrical issues promptly.
7. Hygiene Practices: Promote good hygiene practices in the classroom, such as encouraging students and staff to clean their hands regularly. Provide hand sanitizers or handwashing facilities in accessible locations. Encourage proper respiratory etiquette, including covering coughs and sneezes with tissues or elbows.
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9. Safety Training: Provide safety training to students and staff, including emergency procedures, evacuation drills, and awareness of potential hazards. Educate individuals about health and safety guidelines specific to the classroom environment.
10. Communication and Signage: Clearly communicate safety guidelines and protocols to students and staff. Display signage in visible locations to remind individuals of hygiene practices, physical distancing, and other safety measures.

G. Program Quality Assurance:

1. Program Quality Assurance System

Provide a link to quality assurance manual.

Quality Assurance link

Program quality is monitored through several procedures:

- **Courses reports are submitted to the program manager every trimester.**
- **Appropriate teaching staff committee is in the charge of assessment and modification.**
- **Prepare and monitor the annual program report.**
- **Conduct and analyze surveys opinion of the students about the courses and the program.**
- **Conduct and analyze surveys opinion of the employers about the program.**
- **Program manager reviews the proposals submitted by the previous committees and makes appropriate decision after approbation of the department council.**
- **Monitor a global review for the development of the program periodically each five years if necessary.**
- **Annual KPIs reports.**
- **Periodic evaluation by stakeholders: students, alumni, faculty members, job market representatives.**
- **Periodic operational plan progress reports.**
- **Benchmarking.**
- **Academic accreditation.**

All the previous processes follow the Teaching\Learning Quality Assurance Process Diagram:

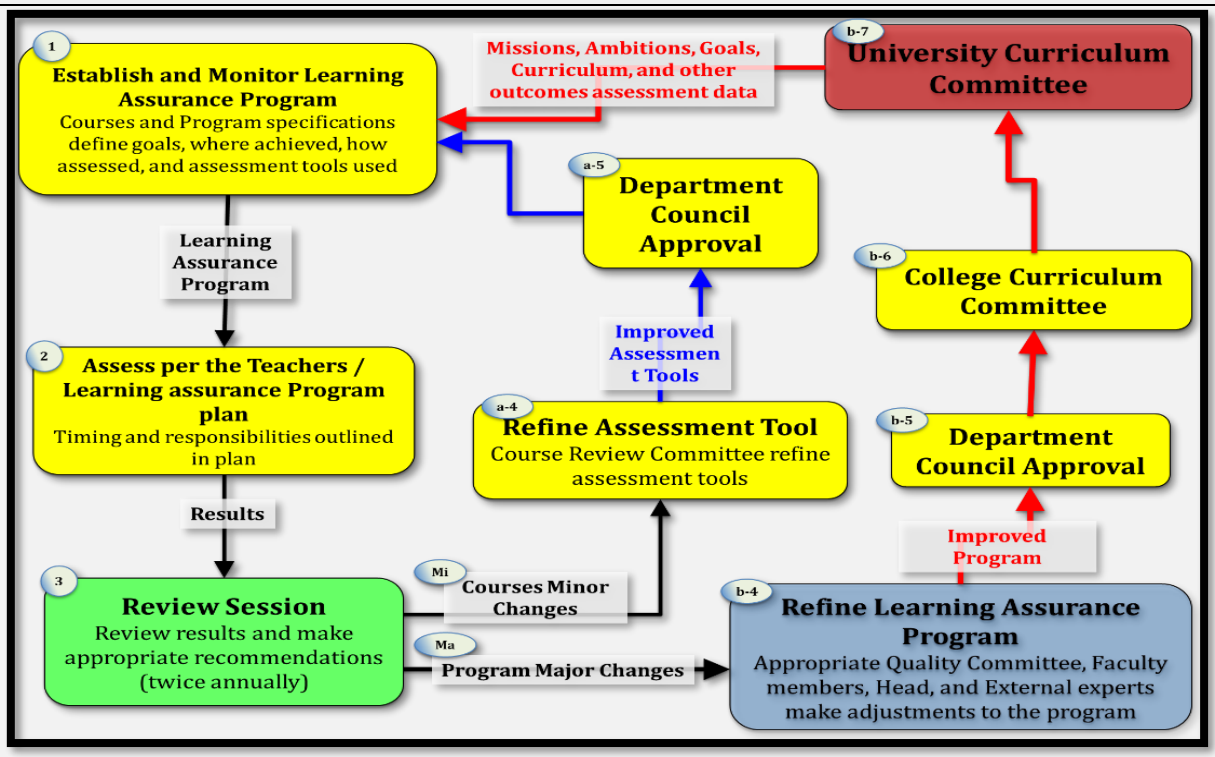

Figure 2 - Teaching\Learning Quality Assurance Process Diagram

These procedures provide multiple points of input that draw a reliable picture of the program's quality and guide improvement plans and initiatives. The reports and data generated from the above-mentioned procedures are reviewed at multiple levels of the university administration to ensure accountability for the implementation of improvement plans.

2. Procedures to Monitor Quality of Courses Taught by other Departments

The quality of Actuarial and Financial Mathematical Program courses taught by other departments is monitored through end-of-semester course reports and student evaluation. These reports are reviewed by the department council and issues are dealt with through improvement plans.

3. Procedures Used to Ensure the Consistency between Main Campus and Branches (including male and female sections).

The following arrangements are used to ensure the consistency between main campus and branches (including male and female sections):

- **Centralized mechanism/policy for program and course development: Permission to introduce changes to the program specification, study plan, and course specifications are only given to the department council in main campus.**

- **Integration Committee: The integration committee play a pivotal role in connecting main and satellite campuses to ensure changes to the program and courses are uniformly implemented across all sections and campuses.**
- **Course Coordination: Course coordination ensures that course coverage, teaching and learning activities, and assessment methods are comparable across all campuses and sections.**
- **Annual Program Reports and End-of-Semester Reports: These two reports are used to monitor for any inconsistency between campuses and sections at the level of courses and the program as a whole.**
  Students of all branches study the same program.
- **The department chooses a coordinator for each course and for each branch at the beginning of the semester.**
- **The coordinators of branches insure that solved exercises are the same for all branches.**
- **The final exam is common for all branches.**

4. Assessment Plan for Program Learning Outcomes (PLOs),

First, it "Mastered" level of performance with be a node of assessment of opportunity. The Mechanism, for demonstrating achievement of the learning outcomes, is an ongoing process which consists seven phases:

- **Phase 1. Data-collection Methodology: Direct and Indirect (listed in Section C.6. above).**
- **Phase 2. Benefits and Drawbacks of Data-collection Methods.**
- **Phase 3. Evaluate the Choice of Data-collection Method.**
- **Phase 4. Collect data.**
- **Phase 5. Interpret evidence.**
- **Phase 6. Report the resulting information and document the analysis.**
- **Phase 7. Identify Areas for Improvement and Enhancement.**

At each stage (cycle of assessment), we use the resulting information in form of report into account to document, analyze, and improve all components of the program based on the appropriate key performance indicators (KPIs). As follows a table summing the long run plan for assessing each track and all PLOs.

PLOs	*Stage 1 (one year)*	*Stage 2 (one year)*	*Stage 3 (one year)*	*Stage 4 (one year)*	*Stage 5 (one year)*	*Stage 6 (one year)*
K1	✓	✓	✓			
K2	✓	✓	✓			
K3			✓	✓		
S1			✓	✓	✓	✓
S2			✓	✓	✓	✓
S3		✓	✓	✓	✓	✓
V1		✓	✓		✓	✓
V2		✓	✓		✓	✓

5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Leadership	Dean	Evaluation report	End of academic year
Effectiveness of teaching & Assessment	Program leader, faculty, Independent reviewers, Students	Surveys, Interviews, Visits	End of the semester, During the semester
Learning resources	Employers, Faculty, Graduates, Students	Surveys, Interviews	End of the semester, During the semester

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.)

6. Program KPIs*

The period to achieve the target (1) year.

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-1	Students' Evaluation of quality of learning experience in the program	3.5/5	surveys	Twice per year
2	KPI-2	Students' evaluation of the quality of the courses	3.5/5	surveys	Twice per year
3	KPI-3	Completion rate	40%	Graduation data	Yearly starting from the first promotion
4	KPI-4	First-year students retention rate	30%	Graduation data	Yearly starting from the first promotion
5	KPI-5	Students' performance in the professional and/or national examinations	First 10%	Department data	Yearly
6	KPI-6	Graduates' employability and enrolment in postgraduate programs	55%	Department data	Yearly
7	KPI-7	Employers' evaluation of the program graduate's proficiency	3.5/5	surveys	Yearly starting from the first promotion
8	KPI-8	Ratio of students to teaching staff	12	Department data	Yearly
9	KPI-9	Percentage of publications of faculty members	60%	Department data	Yearly
10	KPI-10	Rate of published research per faculty member	0.8	Department data	Yearly
11	KPI-11	Citations rate in refereed journals per faculty member	100	Department data	Yearly

*including KPIs required by NCAAA

H. Specification Approval Data:

Council / Committee	MATHEMATICS AND STATISTICS DEPARTMENT COUNCIL
Reference No.	17/1445
Date	12/06/1445 (25/12/2023)

قائمة الملاحق

نموذج	المسمى	رقمه على الرابط
	توصيفات المقررات	2_1
	توصيف الخبرة الميدانية	2_2
	توصيف الرسالة العلمية	2_3
	تقرير الاتساق مع التصنيف السعودي والإطار الوطني للمؤهلات2023	3
	نظام تحسين الجودة	4
	خطة قياس نواتج تعلم البرنامج	5
	تقرير مواءمة مع الإطار الوطني للمؤهلات والتصنيف الموحد	6
6	تقرير الاتساق مع سمات الخريجين المؤسسية	7
8	مواءمة رسالة البرنامج مع رسالة القسم والكلية والجامعة	8
11	مصفوفة استراتيجيات التدريس والتقويم	9
	نظام إدارة الجودة والاعتماد الأكاديمي	10
	نموذج ربط التخصص بالدليل السعودي الموحد	11

رابط الملاحق