المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA
MINISTRY OF EDUCATION وزارة التعليم
AL-BAHA UNIVERSITY جامعة الباحة

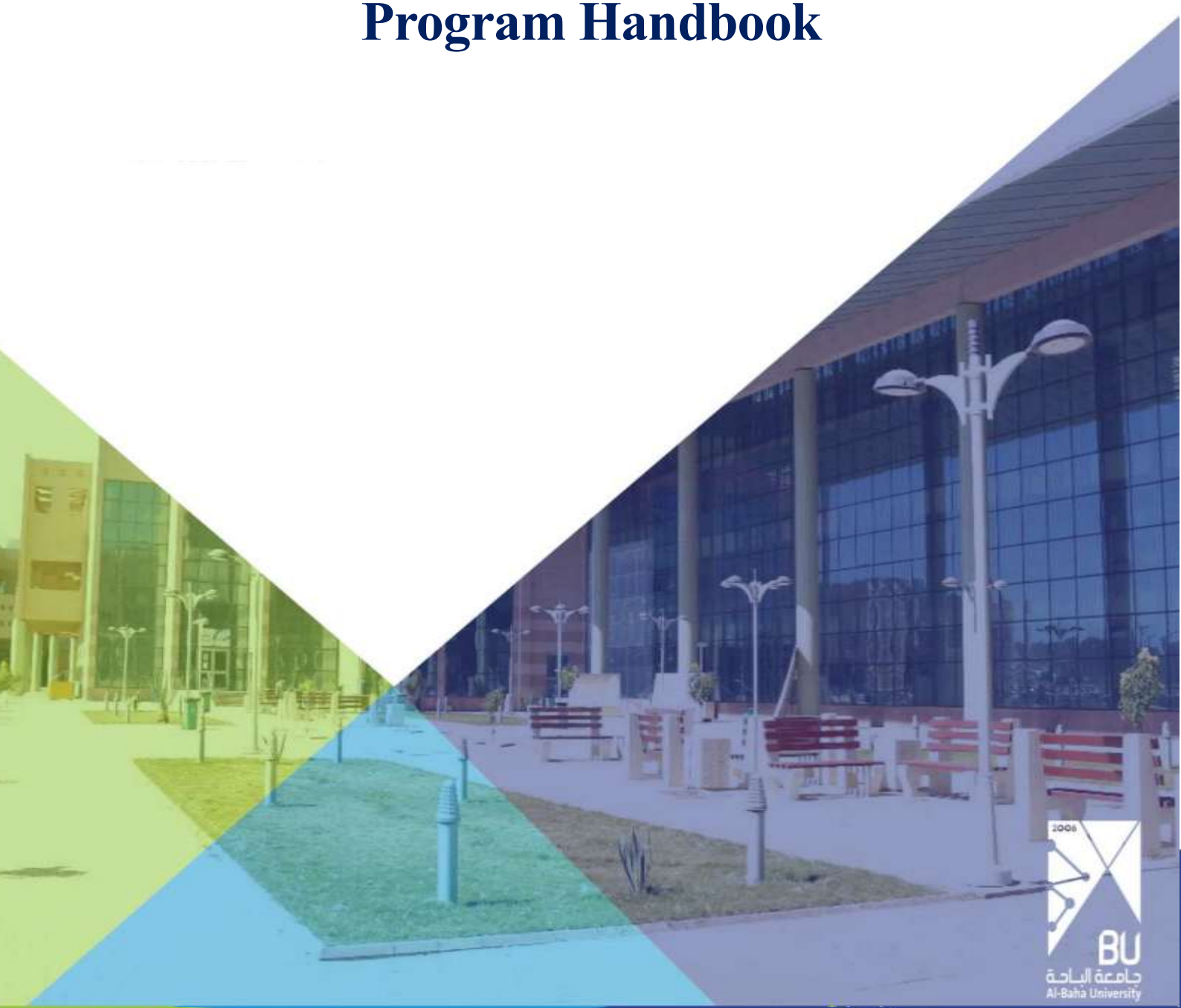
كلية العلوم
Faculty of Science
Al-Baha University

Al-Baha University

Faculty of Science

Bachelor's Degree in Mathematics

Program Handbook



Contents

المملكة العربية السعودية، الباحة-ص.ب(1988)
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KINGDOM OF SAUDI ARABIA, Al-Baha P.O.Box(1988)
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Introduction

The Faculty of Science at Al-Baha University was established by Royal Decree No. 9682/M, dated 5/8/1426 H. It began its academic activities in 1427 H with the aim of effectively contributing to expanding the higher education base in the Kingdom of Saudi Arabia in the fields of basic and applied sciences and meeting the needs of the public and private sectors' job market. Currently, the Faculty of Science at Al-Baha University has developed study programs to equip students with scientific and practical skills and knowledge, primarily focusing on the use of modern technology in four main departments: Biology, Mathematics, Physics, and Chemistry. These programs aim to qualify graduates for employment in governmental and private institutions in the provinces.

The Mathematics Department offers a bachelor's degree in Mathematics and provides numerous career opportunities in teaching, economic, research centers.

We are pleased to present to you this Handbook, which contains information that about the program.

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Faculty Vision

A distinguished faculty in basic sciences education and scientific research to serve the community.

Faculty Mission

Providing distinguished educational and research programs in basic sciences to prepare graduates that contribute the community service through motivating academic environment and efficient use of the resources.

Faculty Objectives

1. Creating an excellent academic environment to enhance the competitiveness of faculty students.
2. Achieving excellence among the faculty staff.
3. Developing and improving the faculty's scientific research infrastructure
4. Establishing postgraduate programs that are in line with labor market demands.
5. Developing and improving faculty community service activities.
6. Contributing to the development of the university's resources.

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Program Vision

A distinguished mathematics program in education and scientific research for community service.

Program Mission

Providing an outstanding academic program in the field of mathematics that qualifies highly skilled graduates who contribute to community service through scientific research and a supportive academic environment.

Program Objectives

1. Creating a motivating academic environment for both teaching and research.
2. Equipping students with the essential knowledge and skills in mathematics to meet the needs of the labour market.
3. Enhancing the use of modern technologies to achieve educational and research excellence in mathematics and its applications.
4. Developing a robust scientific research framework in the field of mathematics.
5. Preparing qualified graduates to contribute to community service.

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Program Learning Outcomes

Knowledge and understanding	
K1	Students should be able to define mathematical concepts and other concepts in other different sciences.
K2	Students should be able to state mathematical axioms and theorems.
Skills	
S1	Students should be able to apply mathematical concepts, axioms and theorems in solving mathematical problems by both analytical and numerical methods.
S2	Students should be able to construct mathematical arguments and proofs of mathematical theorems.
S3	Students should be able to write the relevant mathematical ideas and relations to mathematical formulas (Diagrams, graphs, curves and mathematical tables, etc).
S4	Students should be able to use suitable communications and information technologies to collect and analyze and interpret the given information verbally and written.
Values, Autonomy, and Responsibility	
V1	Students should be able to develop self-learning skills.
V2	Students should be able to take academic responsibility for their own learning.

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Program's Graduate Attributes

Mathematics program adopted same university's graduate attributes. The following table illustrates University Graduate Attributes with correspondent codes.

Program's Graduate Attributes	
Code	**Description**
PGA1	**Critical thinking and problem solving**
PGA2	**Creativity and innovation**
PGA 3	**Collaboration and teamwork**
PGA 4	**Communication skills**
PGA 5	**Information technology and proficiency skills**
PGA 6	**Information skills**
PGA 7	**Flexibility and adaptability**
PGA 8	**Initiative sand self-direction skills**
PGA 9	**Productivity skills**

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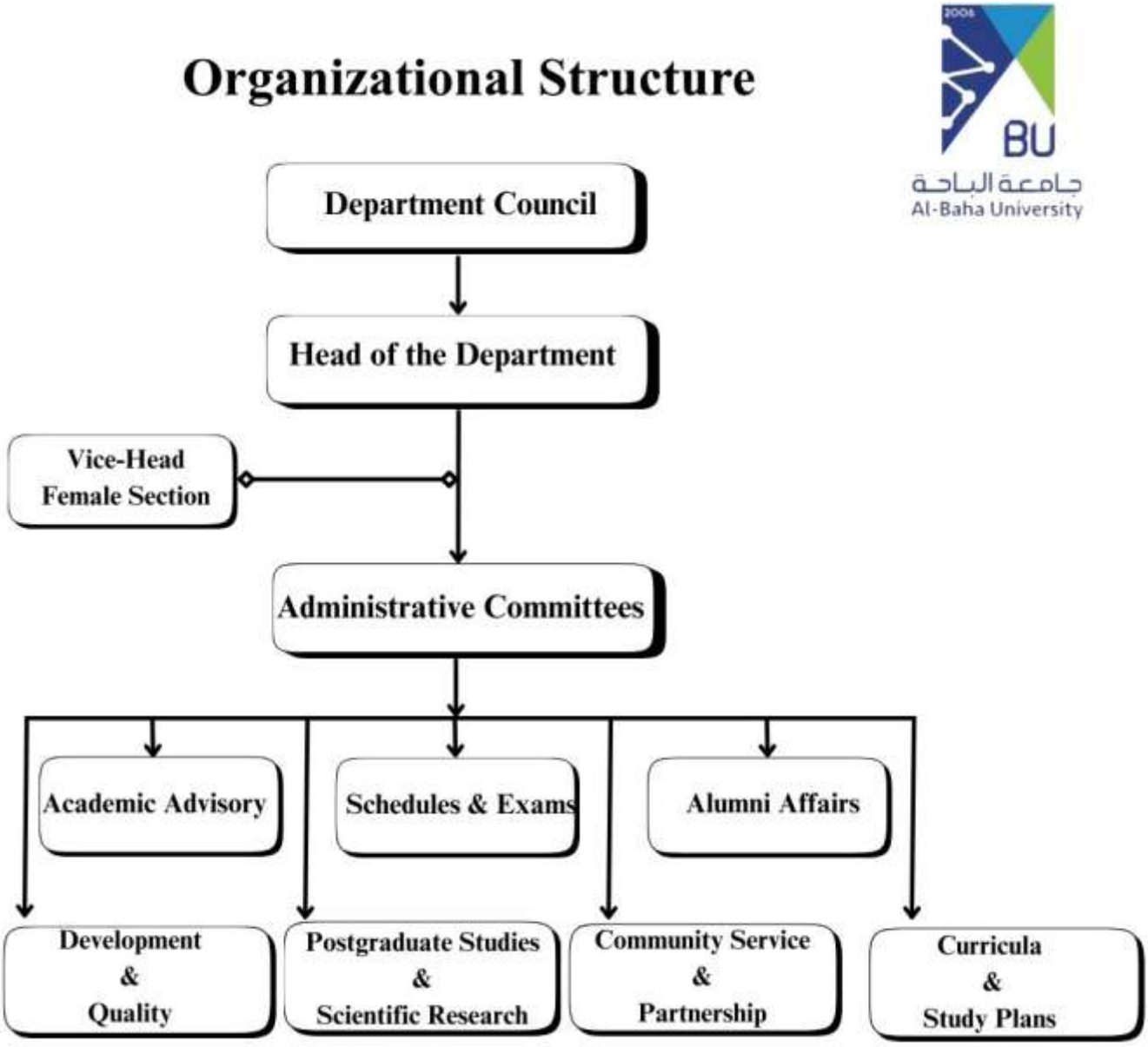
Program Organizational Structure



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Administrative committee

First: Schedules and Exams Committee

Its tasks are as follows:

- Preparing class schedules and examination timetables for each academic semester in coordination with the relevant departments.
- Distributing courses in a manner that ensures transparency and fairness among faculty members.
- Announcing class schedules and examination timetables to receive and address feedback.
- Following up on any amendments to class schedules and exam timetables and finding appropriate solutions.
- Allocating classrooms and exam halls according to the number of students and the nature of the courses.
- Preparing lists of exam invigilators and assigning them to committees to ensure proper conduct of examinations.
- Monitoring the progress of examinations on site and addressing any urgent issues.
- Documenting all procedures related to class schedules and examination timetables.
-

Second: Alumni Affairs Committee

Its tasks are as follows:

- Creating a comprehensive and updated database of graduates and their fields of employment.
- Maintaining continuous communication with alumni and employers through various means (website – email – meetings).
- Organizing activities and meetings with alumni to support them and gather their feedback.
- Preparing career guidance programs and workshops to develop graduates' skills in line with labor market needs, in coordination with the Deanship of Admission and Registration.
- Documenting all procedures and collecting data related to alumni.

Third: Academic Advisory Committee

Its tasks are as follows:

- Conducting orientation sessions for newly admitted students.
- Publishing academic advising guides and awareness materials.
- Educating students about academic regulations, rules, rights, and university responsibilities.

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- Monitoring the performance of academic advisors and ensuring they fulfil their duties toward students.
- Identifying outstanding students, academically struggling students, and students with disabilities, and providing appropriate support in coordination with relevant entities.
- Organizing programs and workshops to enhance self-confidence and develop time-management skills.
- Documenting all procedures and data related to academic advising and guidance.

Fourth: Curricula and Study Plans Committee

Its tasks are as follows:

- Preparing study plan guides and course specifications.
- Proposing new academic programs that meet community and labor market needs.
- Reviewing and updating study plans regularly according to labor market requirements.
- Following up on improvement plans included in course reports.
- Reviewing course specifications and learning outcomes to ensure alignment with quality standards and accreditation requirements issued by the Education and Training Evaluation Commission.
- Documenting all procedures and data related to curricula and study plans.

Fifth: Community Service and Partnership Committee

Its tasks are as follows:

- Developing a timeline for activities and programs that can be offered to the community.
- Strengthening partnerships between the department and governmental, private, and charitable sectors through cooperative training.
- Proposing community initiatives that contribute to addressing community issues and promoting development.
- Organizing events and activities that serve the community in collaboration with relevant entities.
- Evaluating the participation of students and faculty in community service programs and measuring the satisfaction of beneficiary organizations.
- Highlighting the department's role in national and international occasions (Foundation Day – National Day – Flag Day – International Days).
- Documenting all procedures and data related to community partnership and service.

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Sixth: Graduate Studies and Scientific Research Committee

Its tasks are as follows:

- Conducting orientation sessions for postgraduate students regarding regulations and policies.
- Organizing regular courses and workshops to develop research skills.
- Introducing new postgraduate programs that meet community and labor market needs.
- Monitoring the implementation of postgraduate programs and ensuring their alignment with development and quality requirements.
- Reviewing research proposals and theses plans and recommending supervisors.
- Following up on the affairs of sponsored/externally funded students in coordination with the Faculty Vice-Deanship for Graduate Studies, Research, Innovation, and Quality.
- Monitoring the progress of postgraduate students and addressing challenges they face.
- Developing a departmental research plan aligned with university priorities and national directions.
- Proposing mechanisms to encourage research, creativity, and innovation.
- Tracking and updating the department's research output and citation rates regularly.
- Reviewing applications for academic appointments, promotions, and excellence awards for faculty members.
- Documenting all procedures and data related to graduate studies and scientific research.

Seventh: Development and Quality Committee

Its tasks are as follows:

- Promoting quality and academic accreditation culture by organizing meetings and workshops in relevant fields.
- Following up on the timeline for development, quality, and program accreditation processes issued by the Deanship of Development and Quality.
- Supervising the update and revision of course and program specifications and reports.
- Developing operational plans for academic programs, monitoring their indicators, and setting improvement plans.
- Collecting and analysing program performance indicators regularly.
- Communicating with departmental committees to gather necessary data for the annual report.
- Following up on updates to academic and administrative policies and procedures in accordance with quality standards.
- Documenting all procedures and data related to quality and accreditation activities.

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Study plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements
Level 1	ISLM1001	Islamic Culture (1)	Required	-	2	University
	ARAB1001	Language Skills	Required	-	2	University
	BIO1001	General Biology	Required	-	4	College
	PHYS1001	General Physics	Required	-	4	College
Level 2	ISLM1003	Quranic Recitation and Guidance	Required	-	2	University
	HIST1001	History of the Kingdom of Saudi Arabia	Required	-	2	University
	MATH1001	Calculus (1)	Required	-	4	College
	CHEM1001	General Chemistry	Required	-	4	College
Level 3	ISLM1002	Islamic Culture (2)	Required	-	2	University
	CS1002	Fundamentals of Digital Transformation	Required	-	2	University
	ENGL1005	English Language	Required	-	3	College
	MATH1002	Basic Mathematics	Required	_	3	Program
	MATH1003	Principles of Algebra	Required	_	3	Program
Level 4	STAT1251	Introduction to Statistics	Required	_	3	Program
	MATH1250	Calculus (2)	Required	MATH1001	4	Program
	MATH1251	Analytical Geometry	Required	_	3	Program
	MATH1252	Linear Algebra	Required	_	3	Program
Level 5	MATH1253	Calculus (3)	Required	MATH1250	4	Program
	MATH1254	Classical Mechanics	Required	MATH1250	3	Program
	MATH1255	Solid Geometry	Required	MATH1251	3	Program
	MATH1256	Number Theory	Required	MATH1002	3	Program
Level 6	STAT1252	Probability Theory	Required	STAT1251	3	Program
	MATH1257	Differential Equations (1)	Required	MATH1253	3	Program
	MATH1258	Vector Calculus	Required	MATH1253	3	Program
	MATH1259	Real Analysis (1)	Required	MATH1001	3	Program
Level 7	STAT1500	Statistical Inference	Required	STAT1252	3	Program
	MATH1500	Differential Equations (2)	Required	MATH1257	3	Program
	MATH1501	Real Analysis (2)	Required	MATH1259	3	Program
	MATH1502	Abstract Algebra (1)	Required	MATH1002	3	Program
Level 8	MATH1503	Partial Differential Equations	Required	MATH1257	3	Program
	MATH1504	Complex Analysis	Required	MATH1259	3	Program
	MATH1505	Abstract Algebra (2)	Required	MATH1502	3	Program
	MATH1506	Mathematical Programming	Required	MATH1252	3	Program
Level 9	MATH1507	Introduction to Financial Mathematics	Required	MATH1250	3	Program
	MATH1508	Computational Mathematics	Required	MATH1506	3	Program
	MATH1509	Numerical Analysis	Required	MATH1257	3	Program
	MATH1560	Introduction to Topology	Required	MATH1259	3	Program
	MATH1750	Mathematical Methods	Required	MATH1503	3	Program

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Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements
Level 10	MATH1751	Applications of Algebra	Required	MATH1505	3	Program
	MATH1752	Mathematical Modeling	Required	MATH1257	3	Program
		Elective (1)	Required		3	Program
Level 12	MATH1753	Functional Analysis	Required	MATH1501	3	Program
	MATH1754	Differential Geometry	Required	MATH1258	3	Program
	STAT1750	Statistical Analysis	Required	STAT1252	3	Program
	MATH1756	Research Project	Required	Pass 120 units	3	Program
		Elective (2)	Required		3	Program
Level 12	CS1774	Introduction to Data Science	Required	STAT1251	3	Program
	MATH1757	Dynamical Systems	Required	MATH1500	3	Program
	MATH1758	Operations Research	Required	MATH1252	3	Program
		Elective (3)	Required		3	Program

Elective Courses				
Course Code	Course Title	Credit Hours	Pre-Requisite Courses Credit Hours	Type of requirements (Institution, College, or Program)
MATH1755	Discrete Mathematics	3	MATH1002	Program
MATH1759	Actuarial Mathematics	3	MATH1507	Program
MATH1760	Fluid Mechanics	3	MATH1503	Program
MATH1761	Euclidean and Non- Euclidean Geometry	3	MATH1255	Program
MATH1762	Measure and Integration Theory	3	MATH1501	Program
MATH1763	Encryption Theory	3	MATH1256	Program
MATH1764	Topics in Topology	3	MATH1560	Program
MATH1765	Structures and Graph Theory	3	MATH1252	Program
MATH1766	History of Mathematics	3	-	Program

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Academic staff list

No	Name	Gender	Nationality	Degree	Academic Rank	Specific Specialty	Institution graduated from
1.	Mohammed Saleh Althubyani	M	Saudi	Ph.D.	Assistant Professor	Mathematical Biology	York University
2.	Salem Mubarak Salem Alzahrani	M	Saudi	Ph.D.	Associated Professor	Operational Research and Applied Statistics	Salford University
3.	Ahmad Ali Zaher Alalyani	M	Saudi	Ph.D.	Associate Professor	Numerical Analysis	Florida Tech
4.	Bader Mutair Alqurashi	M	Saudi	Ph.D.	Assistant Professor	Differential Equation	WITS
5.	Mohammed Mousa Albuhayri	M	Saudi	Ph.D.	Assistant Professor	Mathematical Finance	Malardalen University
6.	Faisal Muteb K. Almalki	M	Saudi	Ph.D.	Assistant Professor	Applied Mathematics	Newcastle University
7.	Ali Sarrah Abdullah Alessa	M	Saudi	PhD	Assistant Professor	Mathematical Modeling	Exeter University
8.	Ismail Hamid Elsanousi	M	Sudanese	Ph.D.	Professor	Stochastic functional analysis	Oslo University
9.	Devendra Kumar Sher Singh	M	Indian	Ph.D.	Professor	Complex Analysis	H.N.B. Garhwal University
10.	Hosny Ammar Hessian Sayed	M	Egyptian	Ph.D.	Professor	Quantum Mechanics	Assiut University
11.	Abdelaziz Hamad Elawad	M	Sudanese	Ph.D.	Associate Professor	Mathematical Modeling	UTM Malayisa
12.	Abdelnasser Ghareeb Abdelrahman Aly	M	Egyptian	Ph.D.	Associate Professor	Topology	South Valley University
13.	Elhadi Elnour Elniel Dalam	M	Sudanese	Ph.D.	Associate Professor	Functional Analysis	Sudan University of Science and Technology
14.	Yousif Mohammed Modawy Elmahy	M	Sudanese	Ph.D.	Assistant Professor	Real Analysis	Omdurman University
15.	Ahmed Musa Ibrahim Adam	M	Sudanese	Ph.D.	Assistant Professor	Linear Functional Analysis	Omdurman University
16.	Ibrahim Abdelmegeed Abdelhamid Noaman	M	Egyptian	Ph.D.	Assistant Professor	Topology	Tanta University
17.	Mahmoud Mohamed El-Soufi Ali Elghamri	M	Egyptian	Ph.D.	Assistant Professor	Abstract Algebra	Fayoum University
18.	Emadeldeen Noureldaim Hamed	M	Sudanese	Ph.D.	Assistant Professor	Computation mathematics	Mohammed V
19.	Ali Ahmed M Algamedi	M	Saudi	Higer-Dip In Maths	Teaching Assistant	Applied	Exeter University
20.	Abdul Qadir Ali Abdullah Bahazq	M	Saudi	Master	Teaching Assistant	Mathematical statistics	Sydney university

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21.	Fahad Hassan Saad Alzahrani	M	Saudi	Master	Teaching Assistant	Numerical Analysis	King Abdulaziz University
22.	Aishah Ibraheam Basha	F	Saudi	PhD	Assistant Professor	Linear Algebra	WSU
23.	Ohud Fahad Alghamdi	F	Saudi	PhD	Assistant Professor	Topology	King Abdulaziz University
24.	Ghada Awad Elkarim	F	Sudanese	PhD	Assistant Professor	Mathematical Modeling	Alneelain University
25.	Faizah Aali Alomari	F	Saudi	PhD	Assistant Professor	Numerical Analysis	Manchester University
26.	Kaouther Ahmed Boulehmi	F	Tunisian	PhD	Assistant Professor	Partial Differential Equations	Carthage University
27.	Khadeeja Abaker Adam Helal	F	Sudanese	PhD	Assistant Professor	Functional Analysis	Omdurman Islamic University
28.	Reemah Abdullrahman Alhothali	F	Saudi	PhD	Assistant Professor	Differential Equation	FIT
29.	Reem Magboul Algethami	F	Saudi	PhD	Assistant Professor	Operation Research	Surrey University
30.	Salihah Safar Alghamdi	F	Saudi	PhD	Assistant Professor	Statistics	Glasgow University
31.	Azza Muhammed Alghamdi	F	Saudi	PhD	Assistant Professor	Complex Analysis	Uppsala University
32.	Ourida Ben Khalifa	F	Tunisia	PhD	Assistant Professor	Complex Analysis	Paris VI University
33.	Asma Ahmad A Alzahrani	F	Saudi	Ph.D.	Assistant Professor	Applied statistics	Newcastle University
34.	Taghreed Abdulghani Alqurashi	F	Saudi	PhD	Assistant Professor	Complex Analysis	Leeds University
35.	Bashayer Saleh Alharbi	F	Saudi	Ph.D.	Assistant Professor	Algebra	UQU
36.	Abeer Abdullah Alghawazi	F	Saudi	PhD	Assistant Professor	Differential Geometry	King Abdulaziz University
37.	Khadeeja Maqaad Salem Alnefaie	F	Saudi	Master	Teaching Assistant	Applied Mathematics	King Abdulaziz University
38.	Ghaithah Abdullah Saeed Al-Zahrani	F	Saudi	Master	Teaching Assistant	Statistics	Taif University

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