

Contents

A.	Program Identification and General Information	3
B.	Program Context	6
C.	Mission, Goals and Objectives	7
D.	Program Structure and Organization	8
E.	Regulations for Student Assessment and Verification of Standards	21
F.	Student Administration and Support	21
G.	Text and Reference Material	22
H.	Faculty	23
I.	Program Evaluation and Improvement Processes	24

Program Specification

Institution:

Majmaah University

Date :

2014/4/15

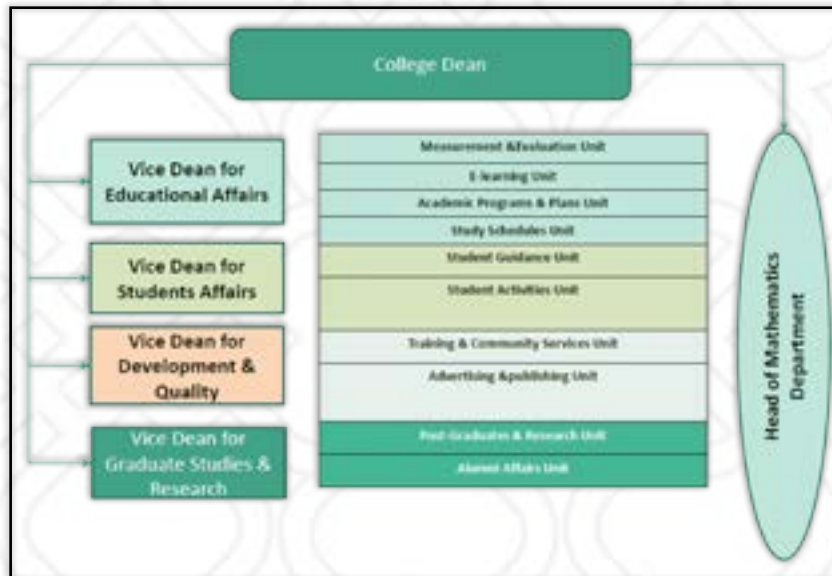
College/Department:

Zulfi, College of Sciences / Department of Mathematics

Dean:

Dr. Mohamed Al- Aboodi

Insert program administrative flow chart



A. Program Identification and General Information

1. Program title and code

Bachelor of Science in Mathematics / MATH.

2. Total credit hours needed for completion of the program

137 hours, 8 semesters (4 years).

3. Award granted on completion of the program

Bachelor of Science in Mathematics

4. Major tracks/pathways or specializations within the program (eg. transportation or structural engineering within a civil engineering program or counseling or school psychology within a psychology program)

None

5. Intermediate Exit Points and Awards (if any) (eg. associate degree within a bachelor degree program)

Not applicable

6. Professions or occupations for which students are prepared. (If there is an early exit point from the program (eg diploma or associate degree) include professions or occupations at each exit point)

1. High school teachers In Ministry of Education.
2. Mathematicians in government ministries and institutions, and private sectors that require mathematical skills such as: Ministry of Finance, Saudi Arabian Monetary Agency, General Organization for

Social Insurance, Central Department of Statistics and Information, Public Pension Agency, Banks, Research Centers, ARAMCO, SABIC, etc.

3. Meritorious students pursue higher studies and ultimately join as faculty in colleges, technical colleges and universities in the Kingdom of Saudi Arabia.

7. (a) New Program
 Planned starting date

(b) Continuing Program
 Year of most recent major program review
 Organization involved in recent major review (eg. internal within the institution, accreditation review by:
 Internal within the institution

8. Name and position (eg department chair person) of faculty member managing or coordinating the program.
 Prof Dr. Adel Mohamed Zaki Department Chairman

9. Date of approval by the authorized body (MoHE for private institutions and Council of Higher Education for public institutions).

Campus Branch/Location	Approval By	Date
Zulfi, College of sciences Establishment. Zulfi, Mathematics Program Establishment.	Qassim University	3/4/1426 (11/5/2005)
	MOHE	30/4/1426(7/6/2005)
	High Approval	5/8/1426 (9/9/2005)
Study Start in Zulfi, College of Sciences		1427-1428(2006/2007)
Study Start in Mathematics Program		
Majmaah University Establishment.	MOHE	14/7/1430(7/7/2009)
	High Approval	3/9/1430(24/8/2009)
First batch of Graduation in Zulfi, College Science		1431(2010)
First batch of Graduation in Mathematics Program		
Study Transition to new building at Zulfi		1431(2012)

Location if not on main campus or locations if program is offered in more than one location.
 Main Campus in Zulfi, for males

The decision of the Board of higher education with the establishment of Zulfi, Faculty of science

Kingdom of Saudi Arabia
Higher Education Council
General Secretariat



About: College Establishment - Qassim University

Decision of the Board of higher education			High Approval	
Number	Meeting	Date	Number	Date
16/37/1426	37	30/4/1426	9683 /MB	5/8/1426

establishment of the Faculty of Sciences in Zulfi, Qassim University; includes the following departments:

- Mathematics
- Physics
- computer and information science
- medicine laboratory

The decision of the Board of higher education with the establishment of Majmaah University

Kingdom of Saudi Arabia
Higher Education Council
General Secretariat



About: Establishment of three Governmental Universities in Elkharg, SHaqraa and Majmaah

Decision of the Board of higher education			High Approval	
Number	Meeting	Date	Number	Date
4/1430	Scroll Meeting	14/7/1430	7205 /MB	3/9/1430

B. Program Context

1 Explain why the program is needed.

a. Economic reasons (if relevant)

High demand for duly qualified graduates from the Department of Mathematics to fill the positions in the areas mentioned in A- 6 above.

b. Social/cultural reasons (if relevant)

Increasing interest of the local community in higher education.

c. Relevance to Institution/College Mission.

Scientific excellence through plans and programs enables students to acquire the knowledge and skills needed to compete in the labor market.

2. Relationship (if any) to other programs offered by the institution/college/department.

a. Does this program offer courses that students in other programs are required to take?

Yes

No

If yes, what should be done to make sure those courses meet the needs of students in the other programs?

Communication and coordination with the relevant departments

b. Does the program require students to take courses taught by other departments?

Yes

No

If yes, what should be done to make sure those courses in other departments meet the needs of students in this program?

Considering students evaluations who have completed these courses

3. Do the students who are likely to be enrolled in the program have any special needs or characteristics that should be considered in planning the program?

(eg. Part time evening students, limited IT or language skills)

Yes

No

If yes, what are they?

They should have a background in general sciences (Mathematics, Physics etc), English language (as a second language), Computer skills and an aptitude to learn Mathematics.

5. What should be done in the program to respond to these special characteristics?

Students have to be prepared in their first year in the college of science by giving them courses in English language, Basic mathematics, Computer skills, etc.

C. Mission, Goals and Objectives

1. Program Mission Statement:

Development of society through providing graduate, who able to compete in education, scientific research and optimal use of technology.

2. List goals and objectives of the program within to help achieve the mission. For each goal and objective describe the major strategies to be followed and list the indicators that are used to measure achievement.

Goals and Objectives	Major Strategies	Measurable Indicators
1 – To provide the community with qualified competent.		
2 – To support E-learning in the department.		
3 – To developed and encourage scientific research.		
4 – To provide consultancy in mathematics to Community.		
5 – To enrich the knowledge of the community to provide distinct programs.		

2. List any major goals for the development of the program over a specified period (eg. five years).

(These should be consistent with goals established for the institution) For each goal list or very briefly describe the major strategies to be followed to achieve the goals.

Major Changes or Developments	Strategies
Updating the contents of the existing courses and adding new some courses	Reviewing and updating the Program study plan periodically
Hiring distinguished faculty members	Increasing the salaries and improving contracts conditions
Upgrading the efficiency of the faculty members	Encouraging training, scientific research and attending national and international conferences
Improving students English language as a second language	Teaching some courses in English language
Supporting the program requirements with modern technology	Establishing a modern website and providing the computer labs with modern computers and software

D. Program Structure and Organization

1. Program Description.

A program or department manual should be available for students or other stakeholders and a copy of the information relating to this program should be attached to the program specification.

This information should include required and elective courses, credit hour requirements and department/college and institution requirements, and details of courses to be taken in each year or semester. If this information is not included in the published statement provide additional details.

Study Plan

At the beginning of the academic year 1434-1433 H the college of sciences joined the program of the preparatory year in the university. This requires the development of the program study plan to be compatible with the new situation. The updated plan has passed the official stages and it has been approved from the academic affairs in the department, the college and the university. This study became applicable with the new students starting from the academic year 1435-1434H.

General Scheme of the Study Plan

Curriculum of the Department of Mathematics (Study Plan) Requirements for the degree of Bachelor of Science (Mathematics) to obtain a bachelor's degree in mathematics, the student must successfully finish 137 credit hours.

The general structure of the plan

Courses Requirement	Percentage of completion (%)	The number of credit hours
University	8.75%	12
Faculty	21.17%	29
Department	72.99%	94
Free courses	1.45%	2
Total	100	137

Requirements and electives:

Requirement	Type of requirement	Total credit hours	The percentage of the total hours of study plan	The observations of the Committee
University	Compulsory	12	8.75%	
Faculty	Compulsory	29	21.16 %	
	Optional			
Department	Compulsory	84	61.31%	
	Optional	10	7.29%	
Free courses		2	1.45%	
Total hours and rates		137	100%	

University requirements:

Course code	Course name	Credit Hour	Prerequisite	Reviews
SALM 101	Introduction to Islamic culture	2(2+0+0)		
SALM 102	Islam and society construction	2(2+0+0)		
SALM 103	Islam of economic system	2(2+0+0)		
ARAB101	Language Skills	2(2+0+0)		
	University Elective	2(2+0+0)		
	University Elective	2(2+0+0)		

Faculty compulsory requirements:

Course code	Course name	Credit Hour	Prerequisite	Reviews
PENG 111	English Language 1	8(2+0+6)		
PENG 121	English Language 2	6(2+0+4)		
PMTH 112	Introduction to Mathematics I	3(2+1+0)		
PMTH 127	Introduction to Mathematics 2	4(4+0+0)		
PPHS 128	Physics	3(2+0+1)		
PCOM 113	Computer Skills	2(2+0+0)		
PENG 123	Scientific and Engineering English Language	1(1+0+1)		
PSSC114	Communication and Education Skills	2(1+0+1)		

The Mandatory Program Requirements:

course code	Course name	Credit Hour	Pre-Requisite	Co-Requisite
MATH 231	Mathematics Basis	4(3+1+0)	PMTH 127	
STAT201	Statistics and probability(1)	3(2+1+0)	PMTH 127	
MATH 201	Calculus (1) Calculus 1	4(3+1+0)	PMTH 127	
MATH 271	Introduction to geometry	4(3+1+0)	PMTH 127	
MATH 202	Calculus (2)	4(3+1+0)	MATH 201	
MATH 203	Calculus in several variables	4(3+1+0)	MATH 202	
MATH 204	Vector Calculus	4(3+1+0)	MATH271 + MATH 202	
MATH 241	Linear algebra (1)	4(3+1+0)	MATH 231	
MATH 321	Introduction to differential equations	4(3+1+0)	MATH203	
MATH 351	Numerical analysis (1)	4(3+1+0)	MATH 241 +MATH 21	
MATH 352	Linear Programming	4(3+1+0)	MATH 241	
MATH 353	Mathematical application in computer	4(3+1+0)	MATH203+ MATH351	
MATH 322	Mathematical methods	4(3+1+0)	MATH 321	
MATH342	Group theory	4(3+1+0)	MATH 241	
MATH 344	Number theory	2(2+0+0)	MATH 231	
MATH 332	Graph Theory	2(2+0+0)	MATH 231	
MATH 345	Linear algebra (2)	2(2+0+0)	MATH 241	
MATH 433	Mathematical logic	2(2+0+0)	MATH 231	
MATH 485	Fourier Analysis	2(2+0+0)	MATH 423 +MATH 483	
MATH 334	Discrete Mathematics	3(2+1+0)	MATH 231	
MATH 454	Optimization Technique	3(2+1+0)	MATH 352	
MATH 405	Calculus of Variation	3(2+1+0)	MATH 321	
MATH 482	Real analysis (2)	3(2+1+0)	MATH 381	
MATH 335	Mathematics History	2(2+0+0)	MATH 231	
MATH 412	Topics in Applied Mathematics	3(2+1+0)	MATH 321	
MATH 311	Financial Mathematics	2(2+0+0)	MATH 202	
MATH 455	Numerical analysis (2)	3(2+1+0)	MATH 351	
STAT 404	Data analysis	2(2+0+0)	STAT 302	
STAT 303	Inventory Models	2(2+0+0)	STAT 302 +MATH 352	

The Elective Program Requirements:

course code	Course name	Credit Hour	Pre-Requisite	Co-Requisite
MATH344	Number Theory	2(2+0+0)	MATH231	
MATH332	Graph Theory	2(2+0+0)	MATH231	
MATH345	Linear Algebra 2	2(2+0+0)	MATH241	
MATH433	Mathematical logic	2(2+0+0)	MATH231	
MATH485	Fourier Analysis	2(2+0+0)	MATH423 +MATH483	
MATH334	Discrete Mathematics	3(2+1+0)	MATH231	
MATH454	Optimization Technique	3(2+1+0)	MATH352	
MATH405	Calculus of Variation	3(2+1+0)	MATH321	
MATH482	Real Analysis 2	3(2+1+0)	MATH 381	
MATH335	Mathematics History	2(2+0+0)	MATH231	
MATH412	Topics in Applied Mathematics	3(2+1+0)	MATH321	
MATH311	Financial Mathematics	2(2+0+0)	MATH202	
MATH455	Numerical Analysis 2	3(2+1+0)	MATH351	
STAT404	Data Analysis	2(2+0+0)	STAT302	
STAT303	Inventory Models	2(2+0+0)	STAT302 +MATH352	

Optional Program Requirements

The student selects(10 credit hour)

Training requirements:

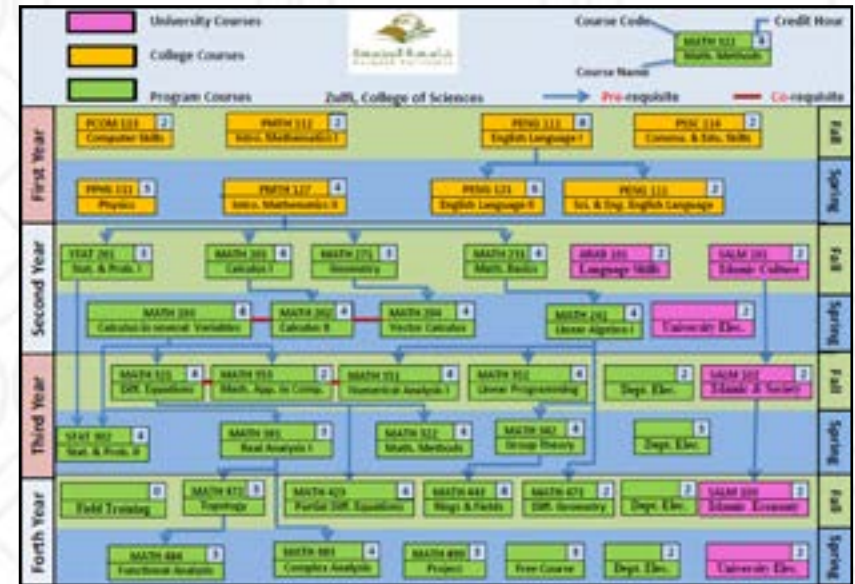
(Training courses or practical education or experience in the field):

Students are trained in a Government or private agencies commensurate with the theme and the duration of training for at least six weeks with at least four hours a week, a needs trains student Faculty official letters indicating the quality of training and the extent and progress of the student.

Prerequisite:

100 credits

Study Plan for Mathematics Program



Mathematics courses Description

(Distribution decisions with respect to levels)

First level (pre-primary)						
Code Course	Course name	Credit Hour	Self-Study/week	Total Work load/semester	Prerequisite	Reviews
PENG 111	English Language 1	8(2+0+6)	15	390	----	
PMTH 112	Introduction to Mathematics 1	2(2+0+0)	6	105	----	
PCOM 113	Computer Skills	2(1+0+1)	6	105	----	
PSSC 114	Communication and Education Skills	2(1+0+1)	6	105	----	
Total units		14		705		

Second level (pre-primary)				
Code Course	Course name	Credit Hour	Prerequisite	Reviews
PENG 121	English Language 2	4(2+0+4)	PENG111	
PMTH 127	Introduction to Mathematics 2	4(4+0+0)	PMTH 112	
PENG 123	English for engineering and scientific disciplines	2(1+0+1)	PENG111	
PPHS 128	Physics	3(2+0+1)		
Total units		15		

Third level				
Code Course	Course name	Credit Hour	Prerequisite	Reviews
MATH 231	Mathematics Basis	4(3+1+0)	PMTH 1 27	
STAT 201	Statistics and probability 1	3(2+1+0)	PMTH 1 27	
MATH 201	Calculus (1)	4(3+1+0)	PMTH 1 27	
MATH 271	Introduction to Geometry	3(2+1+0)	PMTH 1 27	
ARAB101	Language Skills	2(2+0+0)	-----	
SALM 101	Islamic culture	2(2+0+0)	-----	
Total units		18		

Fourth level				
Code Course	Course name	Credit Hour	Prerequisite	Reviews
MATH 202	Calculus (2)	4(3+1+0)	MATH 201	
MATH 203	Calculus in several variables	4(3+1+0)	MATH 202*	
MATH 204	Vector Calculus	4(3+1+0)	MATH 202 * +MATH 271	
MATH 241	Linear algebra (1)	4(3+1+0)	MATH 231	
-----	University Elective	2(2+0+0)	MATH 201	
Total units		18		

Fifth level				
Code Course	Course name	Credit Hour	Prerequisite	Reviews
MATH 321	Introduction to Differential Equations	4(3+1+0)	MATH 203	
MATH 351	Numerical analysis (1)	4(3+1+0)	MATH 241 +MATH 321	
MATH 352	Linear programming	4(3+1+0)	MATH 241	
MATH 353	Mathematical applications in Computers	2(1+1+0)	MATH 203 +MATH 351	
----	Department Elective	2(2+0+0)	-	
SALM10 2	Islam and society construction	2(2+0+0)	SALM 101	
Total units		18		

Sixth level				
Code Course	Course name	Credit Hour	Prerequisite	Reviews
MATH 322	Mathematical Methods	4(3+1+0)	MATH 321	
MATH 342	Group Theory	4(3+1+0)	MATH 241	
STAT302	Statistics and probability (2)	4(3+1+0)	STAT 201 +MATH 203	
MATH 381	Real Analysis (1)	3(2+1+0)	MATH 203	
-----	Department Elective	3(2+1+0)	----	
Total units		18		

Seventh level				
Code Course	Course name	Credit Hour	Prerequisite	Reviews
MATH 423	Partial Differential Equations	4(3+1+0)	MATH 321	
MATH443	Rings and Fields	3(2+1+0)	MATH 342	
MATH 472	Introduction to Topology	3(2+1+0)	MATH 381	
MATH 473	Introduction to Differential Geometry	4(3+1+0)	MATH 241 +MATH 204	
SALM 103	Economic system in Islam	2(2+0+0)	SALM 101	
-----	Department Elective	2(2+0+0)	-----	
-----	Field training	0	Pass 100 Units	
Total units		18		

eighth level				
Code Course	Course name	Credit Hour	Prerequisite	Reviews
-----	Department Elective	3(2+1+0)	-----	
MATH 483	Complex Analysis	4(3+1+0)	MATH 381	
MATH 484	Introduction to functional analysis	3(2+1+0)	MATH 472	
---	University Elective	2(2+0+0)		
MATH 499	Project	4(2+2+0)	Pass 100 units	
---	Free course	2(2+0+0)		
Total units		18		

Credit point system

- Study system is on the basis of levels.
- The program consists of 8 levels (4 years).
- One level lasts for one semester.
- Total credit hours are 136 hour.
- One credit hour equivalent t one hour lecture or two tutorial/lab hours per week.

Students Workload

Level (Semester)	Credit Hours	Contact hours (class hours)/week		Average of independent Study hours/week	Total workload/week	Total workload/semester
		Lectures	Tutorials or labs			
1	14	6	8	26	40	600
2	15	9	6	27	42	630
3	18	14	4	30	48	730
4	18	14	4	34	52	780
5	18	14	4	32	50	760
6	18	13	5	32	50	750
7	18	14	4	32	50	750
8	18	13	5	32	50	760
Grand total	137				382	5750

Student-Teacher ratio for the academic year 1435/1434 is 11:1.
Faculty average load/Semester is 17 credit hours.

2.Development of Special Student Characteristics or Attributes

List any special student characteristics or attributes beyond normal expectations that the institution, college or department is trying to develop in all of its students. (eg. Eg. Particularly good at creative problem solving, leadership capacity, commitment to public service, high level of skills in IT). For each special attribute indicate the teaching strategies and student activities to be used to develop it.

Special Attributes	Strategies or Student Activities to Develop these Special	Evidences
Highly qualified and competitive graduates	Diversity in courses, texts and faculty members	Ability of graduates to peruse their graduate studies in high ranked universities and the success in their careers

3.Required Field Experience Component (if any) (Eg. internship, cooperative program, work experience)

Summary of practical, clinical or internship component required in the program.

Note that a more detailed Field Experience Specification comparable to a course specification should also be prepared for any field experience required as part of the program.

(Training courses or practical education or experience in the field):

Students are trained in a Government or private agencies commensurate with the theme and the duration of training for at least six weeks with at least four hours a week, a needs train's student Faculty official letters indicating the quality of training

and the extent and progress of the student.

Prerequisite:

100 credit Hours

- a. Brief description of field experience activity
- b. List the major intended learning outcomes for the program to be developed through the field experience
- c. At what stage or stages in the program does the field experience occur? (eg. year, semester)

After completing 100 credit hours.

- d. Time allocation and scheduling arrangement. (Eg. 3 days per week for 4 weeks, full time for onese semester)

3 days per week for 6 week

- e. Number of credit hours;

0 credit Hours

4. Project or Research Requirements (if any)

Summary of any project or thesis requirement in the program. (Other than projects or assignments within individual courses) (A copy of the requirements for the project should be attached.)

- a. Brief description

Research project. The topics and contents vary depending on the ability of the student and the courses that he has completed.

- b. List the major intended learning outcomes of the project or research task.

Ability to undertake research work by investigating and analysing mathematical results.

- c. At what stage or stages in the program is the project or research undertaken? (eg. year, semester)

After completing 100 credit hours.

- d. Number of credit hours 3 credit hours.
- e. Summary description of provisions for student academic advising and support.

Weekly meetings and discussions between the student and his supervisor.

- f. Description of assessment procedures (including mechanism for verification of standards)

Copies of the written project are provided to the examiners. The student defends his project before the examiners by presenting a short resume of his project followed by the relevant question and answer session. Finally the deserving grade is awarded to the student.

5. Development of Learning Outcomes in Domains of Learning:

For each of the domains of learning shown below indicate:

- • The knowledge or skill the program is intended to develop and the level of that knowledge and skill. (as a guide see general descriptions of knowledge and skills in the National Qualifications Framework for the qualification level of this program;

- The teaching strategies to be used in courses in the program to develop that knowledge and those skills. (This should be a general description of the approaches taken throughout the program but if particular responsibility is to be assigned to certain courses this should be indicated.);

The methods of student assessment to be used in courses in the program to evaluate learning outcomes in the domain concerned.

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Fundamentals of different branches of pure and applied mathematics.	<ul style="list-style-type: none"> • Lectures. • Tutorial classes. 	<ul style="list-style-type: none"> • Quizzes, • Midterm exams
1.2	General sciences (Physics, Chemistry and Statistics)	<ul style="list-style-type: none"> • Home work • Assignments. 	<ul style="list-style-type: none"> • Final-exams.
1.3	Computer skills.	<ul style="list-style-type: none"> • Self-readings. 	<ul style="list-style-type: none"> • Homework
1.4	Social and ethical values.	<ul style="list-style-type: none"> • Projects 	<ul style="list-style-type: none"> • Assignments.
1.5	English Language as a second language.		
2.0	Cognitive Skills		
2.1	Reasonable and creative thinking, relating introductions to results and problem solving.	<ul style="list-style-type: none"> • Lectures, • seminars, 	<ul style="list-style-type: none"> • Homework's, • Projects,
2.2	Formulate or idealize the identified problem as a mathematical model.	<ul style="list-style-type: none"> • homework • Assignments. 	<ul style="list-style-type: none"> • Exams.
2.3	Solve the formulated problem by applying the technical skills gained in various classes.		
2.4	Analyze and interpret experimental data.		
3.0	Interpersonal Skills & Responsibility		
3.1	Ability to work individually or within a team.	Discussions through: <ul style="list-style-type: none"> • lectures 	<ul style="list-style-type: none"> • Homework • assignments.
3.2	Learn the initiative spirit and bear responsibility for different situations.	<ul style="list-style-type: none"> • Tutorial classes. • Team work • Assignments. 	<ul style="list-style-type: none"> • Open discussion • posing questions through the lectures and the tutorial classes.
3.3	Understand the importance of professional responsibility regarding product liability.	<ul style="list-style-type: none"> • Projects 	

3.4	Understand codes of ethics and their importance.		
4.0	Communication, Information Technology, Numerical		
4.1	Extract high benefits from the use of the World Wide Web.	<ul style="list-style-type: none"> • Lectures, • Using computer laps, • Homework • Assignments. • Projects 	<ul style="list-style-type: none"> • Exams, • Homework • Assignments
4.2	Using mathematical software such as Matlab and Mathematica and getting advantages of		
4.3	Organize, connect, and communicate mathematical and algorithmic ideas.		
4.4	Acquire facility with several significant technological tools, and use them effectively for computation, exploration, and presentation.		
4.5	communicate effectively orally, visually, and in writing		
5.0	Psychomotor		
5.1	Select appropriate analytic and design tools for Mathematical problems.	<ul style="list-style-type: none"> • Lectures, • Using computer laps, • Homework • Assignments. • Projects 	<ul style="list-style-type: none"> • Exams, • Homework • Assignments
5.2	Use technological application software as analysis and application tools..		

Program Learning Outcome Mapping Matrix

Identify on the table below the courses that are required to teach the program learning outcomes. Insert the program learning outcomes, according to the level of instruction, from the above table below and indicate the courses and levels that are required to teach each one; use your program's course numbers across the top and the following level scale.

Levels:

I = Introduction

P = Proficient

A = Advanced

Allocation of Responsibilities for Learning Outcomes to Optional Courses

Levels:

I = Introduction

P = Proficient

A = Advanced

M = Math

PE=PENG

PM=PMTH

PC=PCOM

PPH=PPHS

A=ARAB

SA=SALM

ST=STAT

Learning Outcomes	Course Code and Number															
	PE 111	PM 112	PC 113	PPC 114	PE 115	PM 117	PC 119	PPH 128	M 131	M 132	M 133	M 134	M 135	M 136	M 137	M 138
Knowledge <ul style="list-style-type: none"> • Fluency of different branches of pure and applied mathematics • General science (Physics, Chemistry and Statistics) • Computer skills • Social and ethical values • English Language to a second language 																
Cognitive Skills <ul style="list-style-type: none"> • Reasonable and creative thinking, relating information to results and problem solving • Formulate or identify the identified problem in a mathematics context • Solve the formulated problem by applying the technical skills gained in various classes • Analyze and interpret experimental data 																
Interpersonal Skills & Responsibility <ul style="list-style-type: none"> • Ability to work individually or within a team • Learn the nature's spirit and bear responsibility for different situations • Understand the importance of professional responsibility regarding product liability • Understand codes of ethics and their importance • Express high benefits from the use of the World Wide Web 																
Communication, Technology, Research <ul style="list-style-type: none"> • Using mathematical software such as Maple and Mathematica and online submission of • Organize, connect, and communicate mathematical and algebraic ideas • Acquire facility with up and significant technological tools, and use them effectively for computation, exploration, and presentation 																
Problem Solving <ul style="list-style-type: none"> • Solve appropriate real-life and design tasks for Mathematical problems • Use technological application software to solve real application tasks 																

Learning Outcomes	Course Code and Number																
	M 221	M 301	M 302	M 303	M 304	SA 100	M 302	M 303	M 304	M 305	M 306	SA 100	SA 101	M 307	M 308	M 309	
Knowledge <ul style="list-style-type: none"> • Fundamentals of different branches of pure and applied mathematics. • General sciences (Physics, Chemistry and Statistics) • Computer skills • Social and ethical values 																	
Cognitive Skills <ul style="list-style-type: none"> • English Literature in a social context • Analytical and creative thinking, taking into account its roots and problem solving • Formulate or identify the identified problem as a mathematical model • Solve the formulated problem by applying the technical skills gained in various classes. • Analyze and interpret experimental data. 																	
Interpersonal Skills & Responsibility <ul style="list-style-type: none"> • Ability to work individually or within a team • Learn the nature of rights and responsibilities for different situations. • Understand the importance of professional responsibility regarding product liability. • Understand roles of ethics and their importance 																	
Communication, Information Technology, Numerical <ul style="list-style-type: none"> • Extract high benefits from the use of the World Wide Web. • Using mathematical software such as Maple and Mathematica and getting advantages of • Organize, reason, and communicate mathematical and algorithmic ideas. • Acquire ability with several significant technological tools, and use them effectively for computation, explanation, and presentation. 																	
Psycho-motor <ul style="list-style-type: none"> • Select appropriate models and design tools for Mathematical problems. • Use technological applications software to analyze and application tools. 																	

6.Admission Requirements for the program

Attach handbook or bulletin description of admission requirements including any course or experience prerequisites.

7.Attendance and Completion Requirements

Attach handbook or bulletin description of requirements for:

- a.Attendance.
- b.Progression from year to year.
- c.Program completion

E.Regulations for Student Assessment and Verification of Standards

1. Regulations or policies for allocation and distribution of grades

If the institution, college, department or program has policies or regulations dealing with the allocation or distribution of students grades state the policy or regulation, or attach a copy.

The Ministry of Higher Education regulations for teaching and exams.

2.What processes will be used for verifying standards of achievement

(eg check marking of sample of tests or assignments?
Independent assessment by faculty from another institution)
(Processes may vary for different courses or domains of learning.)

Unified exams, group marking and group grading for multi-section courses.

Internal assessment at the end of semester.

F.Student Administration and Support

1.Student Academic Counseling

Describe arrangements to be made for academic counseling and advice for students, including both scheduling of faculty office hours and advice on program planning, subject selection and career planning (which might be available at college level)

- Meeting new students.
- Provide counseling to the students.
- A weekly office schedule is displayed on each faculty member's office and a total of 10 hours are specified for the students to provide them extra assistance and help in solving their academic problems.
- A follow-up committee exist in the department to look after the needs of the teaching assistant's scholarship holders and the meritorious students.
- Displaying the department handbook on the website of the department.

2.Student Appeals

Attach regulations for student appeals on academic matters, including processes for consideration of those appeals.

Ministry of higher education regulations,
University regulations of student's rights unit.
(<http://mu.edu.sa/en/deanships/deanship-admission-and-registration>)

G.Text and Reference Material

1.What process is to be followed by faculty in the program for planning and acquisition of text, reference and other resource material including electronic and web based resources?

- Texts and references are chosen by specialized committees in the department and finally approved in the departmental meeting.
- These texts and references are made available in an appropriate time by the book shop and the central library.
- Through writing original text books or translation of some standard books by the faculty members.
- Subscribing in the data bases to serve the research purposes.

2.What processes are to be followed in the program for evaluating the adequacy of book, reference and other resource provision?

- Reviewing the contents of these texts and references by the specialized committees in the department.
- Chairman follows up.
- Authored and translated texts are sent to referees.

H.Faculty

1.Appointments

Summarize the process of employment of new faculty to ensure that faculty are appropriately qualified and experienced for their teaching responsibilities.

- Generally, meritorious graduates are employed as teaching assistants in the department, then they are provided with scholarships for MS and Ph.D. program. After the completion of the Ph.D. degree they are appointed as faculty members.
- Jobs for the academic staff are advertised nationally and internationally through all kinds of media (like internet , news papers and magazines), a committee appointed by the department examine the applications and classifies them, those to be considered for a position and those who do not meet the academic standards of the department.

2.Participation in Program Planning, Monitoring and Review

Explain the process for consultation with and involvement of faculty in monitoring program quality, annual review and planning for improvement

- Participation of faculty members in various academic committees,
- Any recommendations by these committees are discussed in the departmental council.

3. Professional Development

What arrangements are made for professional development of faculty for:

- a. Improvement in skills in teaching?
 - a. Workshops conducted by the deanship of development and quality assurance
 - b. Seminar lectures and colloquium.
- b. Other professional development including knowledge of research and developments in their field of teaching.
 - Sabbatical leaves
 - Conducting Seminar lectures and colloquium.
 - Attending national and international scientific conferences.
 - Distinguished professors in various topics are invited to visit the department.

4. Preparation of New Faculty

Describe the process used for orientation and/or induction of new, visiting or part time faculty to ensure full understanding of the program and the role of the course(s) they teach as components within it..

- Awareness workshop is conducted at the beginning of every academic year for new faculty members.
- Department handbook.
- Periodical meetings with heads of academic committees and course coordinators.
- Workshops conducted by the deanship of development and quality assurance

4. Part Time and Visiting Faculty

Provide a summary of Program/Department/ College/ institution policy on appointment of part time and visiting faculty. (ie. Approvals required, selection process, proportion of total faculty etc.)

For the part time and visiting faculty, the same policy and process are followed as in the case of full time faculty members, but there is a not faculty member Now.

I. Program Evaluation and Improvement Processes

1. Effectiveness of Teaching

a. What processes will be used to evaluate and improve the strategies planned for developing learning in each of the domains of learning? (eg. assessment of learning achieved, advice on consistency with learning theory for different types of learning, assessment of understanding and skill of faculty in using different strategies)

- Workshops
- Faculty course-evaluation
- Students teacher- evaluation
- Students course-evaluation

b. What processes will be used for evaluating the skills of faculty in using the planned strategies.

- Internal assessment.
- Student's teacher-evaluation.

2. Overall Program Evaluation

a. What strategies will be used in the program for obtaining assessments of the overall quality of the program and achievement of its intended learning outcomes:

Students Experience Evaluations, Program Evaluations

(i) from current students and graduates of the program?

Graduated and enrolled students surveys.

(ii) from independent advisors and/or evaluator(s)?.

(iii) from employers and/or other stakeholders.

Employer's surveys

b. What key performance indicators will be used to monitor and report annually on the quality of the program?

Department annual report.

(Add additional KPIs if desired)

c. What processes will be followed for reviewing these assessments and planning action to improve the program?

These assessments will be considered in updating and developing the program study plan.

Complete the following two tables.

1. Program KPI and Assessment Table
2. Program Action Plan Table

Program KPI and Assessment Table

Standard 3 Management of Quality Assurance and Improvement

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Students overall evaluation on the quality of their learning experiences.	75%					80%
1.1	Advice and Support	75%					80%
1.2	Learning Resources and Facilities	75%					80%
1.3	Learning and Teaching	75%					80%
1.4	Help and Support for my Learning	75%					80%
1.5	Resources to Support my Learning	75%					80%
1.6	Evaluation of my Learning	75%					80%
2	Proportion of courses in which student evaluations were conducted during the year.	75%					80%

Standard 4 Learning and Teaching

List of Program KPIs Approved by the Institution

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Ratio of students to teaching staff (Based on full time equivalents)	1:10					
2	Students overall rating on the quality of their courses.						
2.1	Questions about the start of the course						
2.2	Questions about what happened during the course						
2.3	Evaluation of the Course						
3	Proportion of teaching staff with verified doctoral qualifications.						
4	Percentage of students entering programs who successfully complete first year.						
5	Proportion of students entering undergraduate programs who complete those programs in minimum time.						
6	Proportion of graduates from undergraduate programs who within six months of graduation are: (a) employed (b) enrolled in further study not seeking employment or further study.						

Standard 5 Student Administration and Support Services

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Ratio of students to administrative staff	1:100					
2	Proportion of total operating funds (other than accommodation and student allowances) allocated to provision of student services						
3	Student evaluation of academic and career counselling.	75%					80%
4	Student evaluation of library services.	75%					80%
Standard 6 Learning Resources							
Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Number of book titles held in the library as a proportion of the number of students.						
2	Number of web site subscriptions as a proportion of the number of programs offered.						
3	Number of periodical subscriptions as a proportion of the number of programs offered.						
4	Student evaluation of library services. (Average rating on adequacy of library services on a five point scale in an annual survey of program students.)						

Standard 7 Facilities and Equipment

Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Annual expenditure on IT as a proportion of the number of students						
2	Number of accessible computer terminals per student						
3	Average overall rating of adequacy of facilities and equipment in a survey of teaching staff						
4	Internet bandwidth per user						
Standard 8 Financial Planning and Management							
Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Total operating expenditure (other than accommodation and student allowances) per student.						
Standard 9 Employment Processes							
Kpi#	List of Program KPIs Approved by the Institution	KPI Target Bench mark	KPI Actual Bench mark	KPI Internal Bench marks	KPI External Bench marks	KPI Analysis	KPI New Target Bench mark
1	Proportion of teaching staff leaving the institution in the past year for reasons other than age retirement						
2	Proportion of teaching staff participating in professional development activities during the past year						

Standard 10 Research		KPI Target Benchmark	KPI Actual Benchmark	KPI Internal Benchmark	KPI External Benchmark	KPI Analysis	KPI New Target Benchmark
Kpi#	List of Program KPIs Approved by the Institution						
1	Number of refereed publications in the previous year per full time equivalent member of teaching staff. (Publications based on the formula in the Higher Council Bylaw excluding conference presentations)						
2	Number of citations in refereed journals in the previous year per full time equivalent teaching staff						
3	Proportion of full time member of teaching staff with at least one refereed publication during the previous year						
4	Number of papers or reports presented at academic conferences during the past year per full time equivalent members of teaching staff						
5	Research income from external sources in the past year as a proportion of the number of full time teaching staff members						
6	Proportion of total operating funds spent on research.						
Standard 11 Institutional Relationships with the Community		KPI Target Benchmark	KPI Actual Benchmark	KPI Internal Benchmark	KPI External Benchmark	KPI Analysis	KPI New Target Benchmark
Kpi#	List of Program KPIs Approved by the Institution						
1	Proportion of full time teaching and other staff actively engaged in community service activities						
2	Number of community education programs provided as a proportion of the number of departments						
Analysis of KPIs and Benchmarks: (list strengths and recommendations)							

NOTE :

The following definitions are provided to guide the completion of the above table for Program KPI and Assessment.

- **KPI** refers to the key performance indicators the programs used in the SSRP and are approved by the institution (if applicable at this time). This includes both the NCAAA suggested KPIs chosen and all additional KPIs determined by the program (including %50 of the NCAAA suggested KPIs and all others).
- **Target Benchmark** refers to the anticipated or desired outcome (goal or aim) for each KPI.
- **Actual Benchmark** refers to the actual outcome determined when the KPI is measured or calculated.
- **Internal Benchmarks** refer to comparable benchmarks (actual benchmarks) from inside the program (like data results from previous years or data results from other departments within the same college).
- **External Benchmarks** refer to comparable benchmarks (actual benchmarks) from similar programs that are outside the program (like from similar programs that are national or international).
- **KPI Analysis** refers to a comparison and contrast of the benchmarks to determine strengths and recommendations for improvement.
- **New Target Benchmark** refers to the establishment of a new anticipated or desired outcome for the KPI that is based on the KPI analysis.

Program Action Plan Table

Directions: Based on your “Analysis of KPIs and Benchmarks” provided in the above Program KPI and Assessment Table, list the recommendations identified below.

No.	Recommendations	Action Points	Assessment Criteria	Responsible Person	Start Date	Completion Date
1						
2						
3						
4						
5						
6						

Action Plan Analysis (List the strengths and recommendations for improvement of the Program Action Plan).

Attachments:

1. Copies of regulations and other documents referred to in template preceded by a table of contents.
2. Course specifications for all courses including field experience specification if applicable.

Authorized Signatures

Dean / Program Chair	Name	Title	Signature	Date
Program Dean or Chair of Board of Trustees Main Campus	Prof. Dr. Adel M. Zaki	Professor		15/4/2014
Vice Rector				