



Course Specifications

Course Title:	Mathematics I
Course Code:	091MATH
Program:	MMET, EPET, CHET
Department:	Applied Sciences and supporting studies
College:	College of Applied Industrial Technology
Institution:	Jazan University

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A. Course Identification

1. Credit hours: 4hrs
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: First level/I st year
4. Pre-requisites for this course (if any): None
5. Co-requisites for this course (if any): None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	75	100
2	Blended	--	--
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	45
2	Laboratory/Studio	--
3	Tutorial	30
4	Others (specify)	--
	Total	75

B. Course Objectives and Learning Outcomes

1. Course Description

This introductory course in mathematics covers the following topics:

Basic Concepts of Algebra, equations and inequalities in one variable, two dimensional co-ordinate system and graphs, introduction to functions, linear and quadratic functions, and synthetic division, partial fractions.

The course is introduced through three hours lectures and two hours tutorials weekly.

2. Course Main Objective

The course aims to teach the students the basic and fundamental mathematical concepts required for technical courses, allowing the student to move on to complete successfully, more advanced courses.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Show knowledge of Real number system, Sets, interval notation, Order, absolute values.	K1
1.2	Show knowledge of polynomials, addition of polynomials, multiplication of polynomials, factorization of polynomials.	K1
2	Skills :	
2.1	Identify the number and nature of roots of quadratic equation, linear equation and linear inequality in one variable.	S1
2.2	Use the knowledge of coordinate plane, distance between two points, midpoint of a line segment, circle, and lines.	S1
2.3	Carry out addition, subtraction, multiplication of functions, Zero of functions, Division of polynomials, exponential and logarithmic functions.	S1
3	Values:	
3.1	Demonstrate the ability to work independently and meet deadlines.	V1

C. Course Content

No	List of Topics	Contact Hours
1	Basic Concepts of Algebra	09
2	Equations and Inequalities in one Variable	15
3	Functions and Graphs	15
4	Polynomials, Zeros of Polynomials and Rational Functions	08
5	Exponential and Logarithmic Functions	11
6	Partial fractions	07
7	Operations on polynomials, Factoring polynomials	04
8	Union and intersection, complement of sets	06
Total		75

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Show knowledge of Polynomials, Sets	Lecture, tutorial	Quizzes

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	Equations, Functions and Geometry.	active learning	Assignments, exams
1.2	Show knowledge of union, intersection, absolute values and complement of sets, degree, order and leading coefficient of polynomials.	Lecture, tutorial, active learning	Quizzes, Assignments, exams
2.0	Skills		
2.1	Identify the difference between different types of mathematical symbols..	Lecture, tutorial, active learning	Quizzes, Assignments, exams
2.2	Use the knowledge of linear and quadratic functions, Exponential and logarithmic functions..		
2.3	Carry out addition, subtraction, multiplication and factorization of polynomials, simplification of integer and rational exponents.		
2.4	Calculation of function addition, function multiplication, composition of functions, library of functions.		
3.0	Values		
3.1	Demonstrate the ability to successfully complete assignments independently or in a group.	Assignments	Participation in classroom

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	Week 4	10%
2	Quiz 2	Week 12	10%
3	Assignments, home work and participation in classroom	All weeks	10%
4	Midterm	Week 8	20%
5	Final Term Exam	As scheduled	50%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Office hours are specified and instructors can be reached through emails.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	<ul style="list-style-type: none"> Classroom policy Lecture notes and hardcopies of assignments “College Algebra, 2nd Edition, Ratti&McWaters”.
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Essential References Materials	<ul style="list-style-type: none"> College Algebra and Trigonometry by R N Aufmann, V C Barker and R D Nation, 7th –ISBN-13: 948-1-4390-4860-3, 2011. 	
Electronic Materials	<ul style="list-style-type: none"> Not utilized 	
Other Learning Materials	<ul style="list-style-type: none"> Not utilized 	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms should be furnished for 25 students with <ul style="list-style-type: none"> White board Appropriate Chairs
Technology Resources (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"> Not utilized.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"> Not utilized.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Confidential student Course Evaluation Survey	Institution	Online Direct Survey
End of semester CLO	Course Coordinator	Direct Survey

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	02
Reference No.	02/02/1441/1442
Date	27/10/2020