KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

College Algebra Course Syllabus			
Course Title	**College Algebra**		
Course Code	**MTH1300**	**No. of Credits**	**3**
Department	**All College of Science and College of Business departments**	**Collage**	**COS and COB**
Pre-requisites Course	**Talent Science and Technology**	**Co-requisites Course Code**	**None**
Course Coordinator(s)	**Mohammed I. Khaleel**		
Email	**mohammed.khaleel@komar.edu.iq**	**Office No. 235**	**IP No. 123**
Other Course Teacher(s)/Tutor(s)	**None**		
Class Hours	**Section 1: Monday and Wednesday (8:30-10:00) Classroom (G - 13 - 14)** **Section 2: Sunday and Tuesday (12:00-1:30) Classroom (111 and 112)** **Section 3: Sunday and Tuesday (2:00-3:30) Classroom (G - 13 - 14)**		
Office Hours	**Monday and Wednesday (10:00-12:00)**		
Course Type	❐ **College Requirement**		
Academic Year	☐ **Spring Semester 2016**		

Course Description

The course provides an understanding of algebraic concepts, processes, and practical applications. Topics include linear equations and inequalities, quadratic equations, systems of equations and inequalities, complex numbers, exponential and logarithmic expressions and functions, and basic concept of limits. These topics are fundamental to the study of advanced courses in mathematics, statistics and computer technology, as well as in the sciences. Various applications in other fields such as finance, medicine, and environmental studies also require an understanding of algebraic concepts.

Course Objectives

The main goal of this course is that students completing this course will have an understanding of numerical, analytic and graphical approaches to solution of problems that can be expressed algebraically. This includes learning to solve linear, quadratic and high degree polynomial equations and inequalities as well as being able to develop mathematical models which can be represented by these expressions. Students also will learn how to graph a function that reflect a real word application and solve a system consist of two or more equations. The course include lectures, discussions, problems solving, and group work exercises. Students are expected to read the material before coming to class and should come to class with a prepared list of questions.

Course Learning Outcomes

On completing the course, the students should be able to:

1. Understand basic ideas of Algebra: Expressions, Transforming Expressions, Equations and Functions. (ABET a) (AACSB C)
2. Represent the functions graphically. (ABET a) (AACSB C)
3. Understand the concepts of exponential and logarithmic functions. (ABET a) (AACSB C)
4. Solve the systems of equations and inequalities. (ABET a) (AACSB C)
5. Identify and evaluate the limit concepts and its applications. (ABET a) (AACSB C)

KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

GUIDELINES ON GRADING POLICY

A	=	95	–	100	Points
A–	=	90	–	94	Points
B+	=	87	–	89	Points
B	=	83	–	86	Points
B–	=	80	–	82	Points
C+	=	75	–	79	Points
C	=	70	–	74	Points
C–	=	65	–	69	Points
D+	=	60	–	64	Points	(60 is the passing grade. A 100 is your goal)
D	=	55	–	59	Points
D–	=	50	–	54	Points
F	=	0	–	49	Points
W	Withdrawal				
I	Incomplete				

COURSE CONTENT

College Algebra is a three-credit course consisting of six chapters. The chapters include learning objectives, study materials, and activities. Study materials include readings from the course textbook, technical commentaries, a link to Interact Math tutorials, and suggested self-check exercises for use with the Student Solutions Manual. Chapter titles are listed below.

Chapter 1:   Fundamentals and Review of Basic Concepts – CLO #1

Chapter 2:   Graphs and Functions – CLO #1 and 2

Chapter 3:   Polynomial and Rational Functions – CLO #1 and 2

Chapter 4:   Exponential and Logarithmic Functions – CLO #3

Chapter 10: Systems of Equations and Inequalities – CLO #4

Chapter 13: Limits – CLO #5

COURSE TEACHING AND LEARNING ACTIVITIES

Course Teaching and Learning Activities: (short description)

Teaching Strategies	**Student Activities**
1. Lectures/Demonstrations. 2. Assignments. 3. Hands on exercises. 4. Interactive class discussion. 5. Tests and quizzes.	Students must: 1. Read and comprehend the textbook material. 2. Attend all the classes and take notes on class discussions. 3. Actively participate in class discussions and activities. 4. Submit all the assignments and the project on time. 5. Pass tests and quizzes.

KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

COURSE ASSESSMENT Tools		
Assessment Tool	**Description**	**Weight**
Quizzes	Quizzes are scheduled as shown in the semester schedule. Students will do three quizzes. All the quizzes will be counted toward the final grade.	10%
Assignments and Participation	Five assignments will be conducted during the semester; each one will be given as scheduled.	5%
First Test	The first test will be designed to cover the students' learning outcomes number 1 and 2.	10%
Midterm Exam	The Midterm Exam will be designed to cover the students' learning outcomes number 1, 2, 3	25%
Second Test	The second test will be designed to cover the students' learning outcomes number 4 and 5	10%
Final Exam	The final exam will be designed to cover all the students' learning outcomes for this course. The exam will be close book, no materials are allowed except the one that will be given by the instructor.	40%

ESSENTIAL READINGS:

Required Textbooks:
- **Title:** Pre-calculus: Mathematics for Calculus, 6th Edition, 2012.
- **Authors:** James Stewart, Lothar Redlin and Saleem Watson.
- **Publisher:** Cengage Learning.

Reference:
- **Title:** College Algebra, 11th edition, 2013.
- **Authors:** Margaret L. Lial, John Hornsby, and David I. Schneider.
- **Publisher:** Pearson.

COURSE POLICY (including plagiarism, academic honesty, attendance etc.)

Attendance Policy

Students are expected to attend all the classes for the entire semester. Students are responsible for material presented in lectures. Attendance is taken at the beginning of each class. Only students with official KUST absences, family crises, and illness are excused from class. This in no way cancels any responsibility for work due or assigned during absence. The student who misses 10 percent (Four Classes) of the course classes will be suspended from the course and has to repeat it.

Make-up Policy

Because all examinations are announced in advance a zero will be assigned to any missed examination unless a student has a legitimate acceptable reason, such as illness, for not being able to take the examination during all the days when the examination was announced.

Academic Dishonesty

Any type of dishonesty (plagiarism, copying another's test or home-work, etc) will NOT be tolerated. Students found guilty of any type of academic dishonesty are subject to failure in this course, plus further punishment by the University Consul.

Deadlines/Due Dates

Recognizing that a large part of professional life is meeting deadlines, it is necessary to develop time management and organizational skills. Failure to meet the course deadlines will result in penalties.

GUIDELINES FOR SUCCESS

1. Work both independently and in groups of your study of peers, who can help you understanding the course material.
2. Pay a full attention in the class when your instructor explain the lesson, if you understand 70% directly from the instructor, then the 30% will be just practice exercises.
3. Understanding more than memorizing will help you a lot in passing exams.
4. Working many problems beyond the assigned homework will help mastering.
5. Ask a question when something is not clear.
6. Finally, attend every lecture and getting missed material is your responsibility.

E-MAIL ETIQUETTE OF COMMUNICATION

Please note the following in regards to e-mail communication:

1. It is your responsibility to update your Komar-email address daily for course updates. Faculty will not be able to contact you if you fail to have an email address and you could potentially miss important information about the course.
2. Email will only be answered if it comes from Komar-email address. Faculty will not respond to unprofessional email addresses.
3. Mail should have a subject heading which reflects the content of the message.
4. Your message should begin with an appropriate salutation, including the name of the person being addressed, and end with thanks followed by your full name of the sender.
5. Emails that do not follow the above guidelines, or are written in an unprofessional and / or disrespectful manner as well as anonymous emails will not be addressed.
6. Failure to check e-mail may result in you missing important assignments and subsequently affect your grade.

CELL PHONES

All cell phones are expected to be switched to vibrating mode if available and turned off completely if this feature is not an option. Disruption of class due to a cell phone will not be tolerated and the student will be asked to leave the class. All other electronic equipment that the faculty member deems not essential to the provision of academic learning is prohibited from being used in class.

REVISIONTO THE SYLLABUS

This syllabus is subject to change. It is the duty of the instructor to inform students of changes in a timely fashion after approval of Quality Assurance Office (QAO).

KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

Course calendar: Please check the academic calendar for 2015/2016
(Subject to Change)

Weeks	Dates	Topics (Chapters)	Course Requirements
1	28 Feb – 3 Mar 2016	**Course Introduction and Syllabus Explanation** **Chapter One: Fundamentals** 1.1 Real Numbers 1.2 Exponents and Radicals 1.3 Algebraic Expressions	
2	6 – 10 Mar 2016	1.4 Rational Expressions 1.5 Equations 1.6 Inequalities	
3	13 – 17 Mar 2016	1.7 Coordinate Geometry 1.8 Lines	**Assignment #1 CLO #1**
Nawroz Holiday			
4	27 – 31 Mar 2016	**Chapter Two: Functions** 2.1 What Is a Function? 2.2 Graphs of Functions 2.3 Transformations of Functions	**Quiz #1 CLO #1**
5	3 – 7 Apr 2016	2.4 Combining Functions 2.5 One-to-One Functions and Their Inverses	**Assignment #2 CLO #2**
First Test			
6	10 – 14 Apr 2016	**Chapter Three: Polynomial And Rational Functions** 3.1 Quadratic Functions and Models 3.2 Polynomial Functions and Their Graphs	
7	17 – 21 Apr 2016	3.3 Dividing Polynomials 3.4 Real Zeros of Polynomials 3.5 Rational Functions	**Assignment #3 CLO #3**
Midterm Exam			
8	1 – 5 May 2016	**Chapter Four: Exponential And Logarithmic Functions** 4.1 Exponential Functions 4.2 The Natural Exponential Function	

		4.3 Logarithmic Functions	
9	8 – 12 May 2016	4.4 Laws of Logarithms 4.5 Exponential and Logarithmic Equations	**Assignment #4** **CLO #4**
10	15 – 19 May 2016	**Chapter Ten: Systems of Equations and Inequalities** 10.1 Systems of Linear Equations in Two Variables 10.2 Systems of Linear Equations in Several Variables	**Quiz #2** **CLO #4**
11	22 – 26 May 2016	10.3 Matrices and Systems of Linear Equations 10.4 The Algebra of Matrices	**Assignment #5** **CLO #5**
		Second Test	
12	29 May – 2 Jun 2016	10.5 Inverses of Matrices and Matrix Equations 10.6 Systems of Nonlinear Equations 10.7 Systems of Inequalities	
13	5 – 9 Jun 2016	**Chapter Thirteen: Limits** 13.1 Finding Limits Numerically and Graphically 13.2 Finding Limits Algebraically	**Quiz #3** **CLO #5**
14	12 – 16 Jun 2016	13.3 Limits at Infinity	
15	19 – 23 Jun 2016	**Review week**	
		Final Exam	