

**Deanship of the Preparatory Year
Preparatory Math Program**

Course description of PMA T101

Course Information
Course Name : Preparatory Mathematics-I
Course Code : PMAT-101
Text Book Name: Preparatory Mathematics
Text Book Edition : 1st Edition
Text Book Author(s) : Cynthia Y. Young.
Credit Hours : 4
Contact Hours : 4
Lab Hours : 0

Course Description:

PMAT 101 is a theoretical course designed to provide basic knowledge of integers , prime numbers , LCM , rational numbers , irrational numbers ,exponent , laws of exponent ,polynomials , factorization , long division ,synthetic division ,absolute value equation, inequalities and quadratic equations , complex number, system of linear and nonlinear equation in two variables, system of linear inequalities in two variables, Matrices using for solving systems of linear equations in two and three variables and Conic Sections.

Course Objectives:

1. To understand the addition subtraction multiplication and division of integers and rational numbers.
2. To understand exponents, laws of exponents, rational exponent, radicals, nth root.
3. To understand polynomials, degree of polynomials addition and subtraction of polynomials, factorization, Long division and synthetic division.
4. To understand absolute value equation, linear inequalities, quadratic equations and polynomial of higher degrees .
5. To understand the concept of complex number and addition subtraction, multiplication and division of complex number.
6. Solving system of linear equations in two variables by using substitution, elimination and graphing method.
7. Solving system of nonlinear equations in two variables by using substitution and elimination method.
8. To find the solution linear inequalities in two variables by graphing.



9. To know the basic operations of matrix algebra.
10. To Write the augmented matrix of a linear system.
11. Use elementary row operations to reduce matrices to echelon forms.
12. Make use of echelon forms in finding the solution sets of linear systems.
13. Be able to understand the Gaussian elimination with back substitution and Gauss – Jordan elimination method.
14. To recognize basic conic sections and solve different problems.

Grading policy :

Assessment	Assessment task	Proportion of Final Assessment
1	Weekly homework	5%
2	Quizzes	15%
3	Class participation	5%
4	Midterm Examination	25%
5	Final Examination	50%
	Total	100%

Syllabus:

Preparatory Year Program
Mathematics Department
PMAT 101 – Syllabus
first Semester 2016-2017

Pre- Req uisit e	PMAT 101
Text boo k	Preparatory Mathematics.
Obj ecti ve s	<p>The students are expected: To comprehend the material of this course, to improve their computational skills in basic Algebra and Trigonometry and to demonstrate their writing ability in Mathematics with logical steps.</p> <p>Please note that the medium of instruction will be strictly ENGLISH from the first day of classes.</p>



Week #	Date	Quizzes	Text Sections	Topic	Written Homework Problems
1	18 sep-22 sep		1.1	Integers	Workbook
			1.2	Prime, composite, prime factor of natural numbers	
			1.3	Least common multiple (LCM)	
			2.1	Addition, subtraction of rational numbers, decimal representation of rational numbers	
2	25 sep-29 sep		2.2	Irrational and real numbers	Workbook
			2.3	Real line and property of real line	
			3.1	Exponent and law of exponent	
			3.2	Rational exponent, radical nth root, rational exponent and their laws	
3	2 oct-6 oct	Quiz 1	4.1	Polynomial, degree of polynomial Addition, subtraction, special product of polynomial	Workbook
			5.1	Factorization by GCF	
			5.2	Factorization of quadratic polynomial	
4	9 oct-13 oct		5.3	Factorization by special formulas	Workbook
			6.1	Long division	
			6.2	Synthetic division	
5	16 oct-20 oct		6.3	Remainder and factor theorem	Workbook
			6.4	Zeros of polynomial	
			7.1	Linear equation, linear identity and solving a linear identity	Workbook
			7.2	Absolute value equation and solving absolute value equation	
6	23 oct-27 oct	Quiz 2	7.3	Linear inequality property and solution of inequality	Workbook
			7.4	Absolute value linear inequality	
			8.1	Solution of quadratic equation by factorization	
			8.2	Quadratic formula and discriminant rule	
7	30 oct-3 nov		9.1	Polynomial of degree 3 and 4 factorization by synthetic division	Workbook
			9.2	Equation in quadratic form	

