



Course No.	Course Title	No. of Units			Pre-requisites
		Th.	Pr.	Credit	
MATH 342	Abstract Algebra I	3	-	3	MATH 151 MATH 241

#### Course Objectives:

At the end of this course, the student should be able to:

- To introduce the basic concepts of abstract algebra.
- To develop the students abstract and logical thinking Capabilities.
- To develop the student's mathematical ability to handle proofs.

#### Course Description:

Groups and subgroups, Definition of groups, Groupoids, Semigroups and monoids-elementary properties of groups, Permutation groups, Subgroups, Cosets, Lagrange's theorem, Homomorphism's and quotient groups, Homomorphism of groups, Normal subgroup, Quotient groups, Isomorphism, Cayley's theorem, Isomorphism theorems, Introduction to rings, Definition of rings and examples, Fields, Subrings, Rings of polynomials, Rings of matrices, Rings of quaternion, Rings of power series, Homomorphism between rings.

#### Main Text Book:

- A First Course in Abstract Algebra, by John B. Fraleigh, 7<sup>th</sup> edition, Addison-Wesley Publishing Company, 2002.

#### Subsidiary Books:

- Modern Algebra: An Introduction, by John R. Durbin, John Wiley & Sons, Inc. 4<sup>th</sup> edition, 2000.