



# QUAID-I-AZAM UNIVERSITY

## Department of Mathematics

### BS Mathematics List of Courses

#### COMPULSORY COURSES

Sr#	Course Code	Course Title
1	MA-101	Calculus and Analytic Geometry-I
2	MA-102	Calculus and Analytic Geometry-II
3	MA-201	Fundamentals of Mathematics
4	MA-202	Vector Calculus and Complex Numbers
5	MA-203	Discrete Mathematics
6	MA-204	Introduction to Group and Topology
7	MA-205	Differential Equations and Linear Algebra
8	MA-301	REAL ANALYSIS
9	MA-302	LINEAR ALGEBRA
10	MA-303	DIFFERENTIAL GEOMETRY I
11	MA-304	SET TOPOLOGY
12	MA-305	ORDINARY DIFFERENTIAL EQUATIONS
13	MA-306	GROUP THEORY I
14	MA-307	COMPLEX ANALYSIS
15	MA-308	ANALYTICAL MECHANICS
16	MA-309	PARTIAL DIFFERENTIAL EQUATIONS
17	MA-310	FUNCTIONAL ANALYSIS I
18	MA-401	NUMERICAL METHODS

## OPTIONAL COURSES

Sr#	Course Code	Course Title
1	MA-402	MEASURE AND INTEGRATION
2	MA-403	OPTIMIZATION THEORY
3	MA-404	MATHEMATICAL STATISTICS I
4	MA-405	MATHEMATICAL STATISTICS II
5	MA-406	NUMERICAL ANALYSIS
6	MA-407	INTEGRAL EQUATIONS
7	MA-408	DIFFERENTIAL GEOMETRY II
8	MA-409	RIEMANNIAN GEOMETRY
9	MA-410	CONTINUOUS GROUPS
10	MA-411	THEORY OF MANIFOLDS
11	MA-412	INTRODUCTION TO COMBINATORICS
12	MA-413	INTRODUCTION TO ALGEBRAIC GEOMETRY
13	MA-414	ALGEBRAIC SYSTEMS AND CODING THEORY
14	MA-415	GROUP ALGORITHMS PROGRAMMING
15	MA-416	ALGEBRAIC TOPOLOGY
16	MA-417	ADVANCED TOPOLOGY
17	MA-418	FUNCTIONAL ANALYSIS II
18	MA-419	GROUP THEORY II
19	MA-420	RINGS AND FIELDS
20	MA-421	THEORY OF MODULES
21	MA-422	DECOMPOSITION OF MODULES
22	MA-451	FLUID MECHANICS I
23	MA-452	FLUID MECHANICS II
24	MA-453	ELASTICITY THEORY
25	MA-454	SPECIAL RELATIVITY
26	MA-456	ANALYTICAL DYNAMICS
27	MA-457	ELECTROMAGNETISM
28	MA-458	INTRODUCTION TO QUANTUM MECHANICS
29	MA-459	CALCULUS OF VARIATIONS