



**ADAMAS UNIVERSITY
SCHOOL OF BASIC AND APPLIED
SCIENCES**

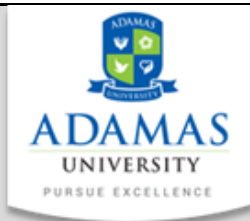
DEPARTMENT OF MATHEMATICS

**M.Sc. (APPLIED MATHEMATICS)
PROGRAMME**

(MTH4201)

COURSE STRUCTURE

EFFECTIVE FROM: AY 2022-2023



SCHOOL OF BASIC AND APPLIED SCIENCES

M.Sc. in Applied Mathematics

SEMESTER I

SL. No.	TYPE OF COURSE	COURSE CODE	TITLE OF THE COURSE	CONTACT HOURS PER WEEK				REMARKS	
				L	T	P	C		
1	CORE	MTH21039	Abstract Algebra	3	1	0	4		
2	CORE	MTH21040	Real Analysis	3	1	0	4		
3	CORE	MTH21041	Linear Algebra	3	1	0	4		
4	CORE	MTH21042	Discrete Mathematics	3	1	0	4		
5	CORE	MTH21043	Computer Programming	3	0	0	3		
6	CORE	MTH22044	Computer Programming Lab	0	0	3	2		
			TOTAL CREDIT					21	

SEMESTER II

SL. No.	TYPE OF COURSE	COURSE CODE	TITLE OF THE COURSE	CONTACT HOURS PER WEEK				REMARKS	
				L	T	P	C		
7	CORE	SDS21042	Probability and Statistics	3	1	0	4		
8	CORE	MTH21045	Topology	3	0	0	3		
9	CORE	MTH21046	Optimization	3	1	0	4		
10	CORE	MTH21047	Complex Analysis	3	1	0	4		
11	CORE	MTH21048	Differential Equations	3	1	0	4		
12	CORE	CSE21741	Data Structures and Algorithm Design	3	1	0	4		
13	CORE	MTH22049	Advanced Programming Language	0	0	3	2		
14	CORE	CSE22742	Data Structures and Algorithm Design Lab	0	0	3	2		
			TOTAL CREDIT					27	

SEMESTER III

SL. No.	TYPE OF COURSE	COURSE CODE	TITLE OF THE COURSE	CONTACT HOURS PER WEEK				REMARKS	
				L	T	P	C		
15	CORE	MTH21050	Functional Analysis	2	1	0	3		
16	CORE	MTH21051	Calculus of variation and Integral equations	3	1	0	4		
17	CORE	MTH21052	Operations Research	3	1	0	4		
18	CORE	MTH21053	Numerical Methods and Programming	3	0	0	3		
19	EL		Elective I	2	1	0	3		
20	CORE	MTH22054	Numerical Methods and Programming Lab	0	0	3	2		
21	EL		Elective I Lab	0	0	3	2		
22	CORE	MTH24055	Project-I	0	0	3	2		
23		MTH24056	Summer Internship				2		
			TOTAL CREDIT					25	

SEMESTER IV

SL. No.	TYPE OF COURSE	COURSE CODE	TITLE OF THE COURSE	CONTACT HOURS PER WEEK				REMARKS	
				L	T	P	C		
24	CORE	MTH21057	Numerical Linear Algebra	3	0	0	3		
25	CORE	MTH22058	Numerical Linear Algebra Lab	0	0	3	2		
26	CORE	SDS21043	Stochastic Process	3	1	0	4		
27	EL		Elective II	4	0	0	4		
28	EL		Elective III	4	0	0	4		
29	CORE	MTH24075	Project-II	0	0	12	10		
			TOTAL CREDIT					27	
			TOTAL REQUIRED CREDIT					100	

ELECTIVE PAPERS:

Students are required to study **THREE** Elective Papers from the following list of electives during semester III and IV. The list of the electives are given below:

List of Elective Papers				
Electives	Paper Name	Paper Code	Credit	L-T-P
Elective I	Computational Number theory with Python	MTH21059	3	3-0-0
	Computational Number theory with Python Lab	MTH22060	2	0-0-3
	Data Analysis Methods in Physical Oceanography	SDS21044	3	3-0-0
	Data Analysis Methods in Physical Oceanography Lab	SDS22045	2	0-0-3
	Database Management System	CSE21745	3	3-0-0
	Database Management System Lab	CSE22746	2	0-0-3
	Object Oriented Programming	CSE21752	3	3-0-0
	Object Oriented Programming Lab	CSE22753	2	0-0-3
	Machine Learning and Applications	SDS21058	3	3-0-0
	Machine Learning and Applications Lab	SDS22059	2	0-0-3
Elective II and III	Fuzzy Set Theory with Applications	MTH21061	4	4-0-0
	Finite Element Method: Theory and Applications	MTH21062	4	4-0-0
	Fluid Dynamics	MTH21063	4	4-0-0
	Mathematical Hydrology	MTH21064	4	4-0-0
	Mechanics	MTH21065	4	4-0-0
	Mathematical Methods	MTH21066	4	4-0-0
	Dynamical System	MTH21067	4	4-0-0
	Cryptography and Network Security	CSE21747	4	4-0-0
	Information and Coding Theory	CSE21748	4	4-0-0
	Advanced Graph Theory	MTH21068	4	4-0-0
	Mathematical Modelling in Bio-Sciences	MTH21069	4	4-0-0
	Application of Module Theory	MTH21070	4	4-0-0