

Department of Mathematics

M.Sc. Mathematics Curriculum

(Applicable to the students admitted from AY: 2025 onwards)



School of Engineering and Sciences
SRM University AP, Andhra Pradesh

ABBREVIATIONS

AEC	Ability Enhancement Courses
VAC	Value Added Courses
SEC	Skill Enhancement Courses
FIC	Foundation & Interdisciplinary Courses
OE	Open Elective
RDIP	Research / Design / Industrial Practice / Project / Thesis / Internship
CE	Core Elective
CC	Core Course
SE	Stream Elective
TE	Technical Elective

SEMESTER - I							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	SEC	S SEC	Statistics	3	1	0	4
2	Core	CC	Multivariable Calculus	3	0	0	3
3	Core	CC	Linear Algebra	3	0	0	3
4	Core	CC	Algebra	3	1	0	4
5	Core	CC	Real Analysis	3	1	0	4
6	Elective	CC	Programming using C and Octave or MATLAB	2	0	1	3
Semester Total				17	3	1	21

SEMESTER - II							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	SEC	S SEC	Introduction to R and Python	3	0	1	4
2	SEC	S SEC	Research methodology	3	0	0	3
3	Core	CC	Complex Analysis	2	1	0	3
4	Core	CC	Ordinary Differential Equations	3	1	0	4
5	Core	CC	Probability and Statistics	3	0	0	3
6	Core	CE	Core Elective	3	0	0	3
7	Core	CE	Core Elective	3	0	0	3
Semester Total				20	2	1	23

SEMESTER - III							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	AEC	S AEC	Research seminar and Report writing	3	0	0	3
2	AEC	S AEC	Design thinking	2	0	0	2
3	Core	CC	Numerical Methods and Analysis	2	0	1	3
4	Core	CC	Partial Differential Equations and Calculus of Variations	3	0	0	3
5	Elective	CE	Core Elective	3	0	0	3
6	Elective	CE	Core Elective	3	0	0	3
7	Elective	CE	Core Elective	3	0	0	3
8	RDIP	RDIP	Project - I	0	0	3	3
9	RDIP	RDIP	Summer Internship	0	0	2	2
Semester Total				19	0	6	25

SEMESTER - IV							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	RDIP	RDIP	Project-II	0	0	14	14
Semester Total				0	0	14	14

Pure Mathematics							
S. No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Functional Analysis	3	0	0	3
2	Elective	CE	General Topology	3	0	0	3
3	Elective	CE	Algebra -II	3	0	0	3
4	Elective	CE	Algebraic Topology	3	0	0	3
5	Elective	CE	Operator Theory	3	0	0	3
6	Elective	CE	Algebraic number theory	3	0	0	3
7	Elective	CE	Introduction to Cryptography	3	0	0	3
8	Elective	CE	Graph Theory	3	0	0	3

Applied Mathematics							
S. No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Dynamical Systems	3	0	0	3
2	Elective	CE	Mathematics for Machine Learning	3	0	0	3
3	Elective	CE	Applied Statistics	3	0	0	3
4	Elective	CE	Tensor Calculus	3	0	0	3
5	Elective	CE	Optimization Techniques	3	0	0	3
6	Elective	CE	Functional Analysis	3	0	0	3
7	Elective	CE	General Topology	3	0	0	3
8	Elective	CE	Graph Theory	3	0	0	3

Data Science and Digital Mathematics							
S. No	Category	Sub- Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Data Structures and Algorithms	3	0	0	3
2	Elective	CE	Industrial Mathematics	3	0	0	3
3	Elective	CE	Mathematics for Machine Learning	3	0	0	3
4	Elective	CE	DBMS with Data Lake and Warehousing	3	0	0	3
5	Elective	CE	Applied Statistics	3	0	0	3
6	Elective	CE	Deep learning and Data Visualization	3	0	0	3
7	Elective	CE	Graph Theory	3	0	0	3
8	Elective	CE	Optimization Techniques	3	0	0	3

