

**AMRITA AHEAD**  
**M.Sc– Mathematics**  
**Curriculum and Syllabus**  
**(2021 admissions onwards)**

**Semester I**

Course code	Course	L T P	Credits	ES
21MAT501A	Advanced Algebra	3 0 0	3	A
21MAT502A	Advanced Real Analysis	3 0 0	3	B
21MAT503A	Ordinary Differential Equations	3 0 0	3	C
21MAT504A	Stochastic Process	3 0 0	3	C
21MAT581A	Mathematics Lab	0 0 2	1	L1
	Elective I	3 0 0	3	E
	TOTAL		<b>16</b>	

**Semester II**

Course code	Course	L T P	Credit	ES
21MAT511A	Advanced Complex Analysis	3 0 0	3	A
21MAT515A	Topology	3 0 0	3	A
21MAT514A	Partial Differential Equations	3 0 0	3	B
21MAT512A	Measure Theory	3 0 0	3	C
21MAT513A	Numerical Analysis	3 0 0	3	E
21MAT583A	Numerical Computations Lab	0 0 2	1	L1
	TOTAL		<b>16</b>	

**Semester III**

Course code	Course	L T P	Credit	ES
21MAT601A	Advanced Graph Theory	3 0 0	3	A
21MAT603A	Functional Analysis	3 0 0	3	B
21MAT602A	Basic Fluid Dynamics	3 0 0	3	C
21MAT604A	Operator Theory	3 0 0	3	D
	Elective II	3 0 0	3	E
	Elective III	3 0 0	3	G
	TOTAL		<b>18</b>	

**Semester IV**

Course code	Course	L T P	Credit	ES
	Elective IV	3 0 0	3	E
21MAT699A	Dissertation		10	P
	TOTAL		<b>13</b>	

**Total credits for the programme: 63**

**ELECTIVE COURSES**

21MAT531A	Advance Boundary Layer Theory	3 0 0	3	D/E	
21MAT532A	Algebraic Geometry	3 0 0	3	D/E	
21MAT533A	Algebraic Topology	3 0 0	3	D/E	
21MAT534A	Coding Theory	3 0 0	3	D/E	
21MAT535A	Commutative Algebra	3 0 0	3	D/E	
21MAT536A	Computational Fluid Dynamics	3 0 0	3	D/E	
21MAT537A	Finite Element Methods	3 0 0	3	D/E	
21MAT538A	Fixed Point Theory	3 0 0	3	D/E	
21MAT539A	Fractals	3 0 0	3	D/E	
21MAT540A	Harmonic Analysis	3 0 0	3	D/E	
21MAT541A	Lie Algebra	3 0 0	3	D/E	
21MAT542A	Linear Algebra and its Applications	3 0 0	3	D/E	
21MAT543A	Magneto-Hydro Dynamics	3 0 0	3	D/E	
21MAT544A	Mathematical Physics	3 0 0	3	D/E	
21MAT545A	Nonlinear Partial Differential Equations	3 0 0	3	D/E	
21MAT546A	Queuing Theory and Inventory Control Theory	3 0 0	3	D/E	
21MAT547A	Statistical Pattern Classifications	3 0 0	3	D/E	
21MAT548A	Statistical Quality Control and Six Sigma Quality Analysis	3 0 0	3	D/E	
21MAT549A	Statistical Techniques For Data Analytics	3 0 0	3	D/E	
21MAT550A	Theory of Manifolds	3 0 0	3	D/E	
21MAT551A	Theory of Sampling and Design of Experiments	3 0 0	3	D/E	
21MAT552A	Time Series Analysis	3 0 0	3	D/E	
21MAT553A	Wavelet Analysis	3 0 0	3	D/E	