M.Sc APPLIED STATISTICS AND DATA ANALYTICS

Amrita - AHEAD

Curriculum

(effective from the academic year 2021-22)

Semester I

Course code	Course	L T P	Credit	ES
21MAT505A	Linear Algebra	3 0 0	3	A
21MAT507A	Probability Theory and Estimation	3 0 0	3	B
21CSA506A	Data Structures and Algorithms	3 0 2	4	C
21MAT506A	Optimization Techniques	3 0 0	3	D
21CSA507A	Introduction to Data Science	2 0 2	3	E
21CSA583A	Python Programming Lab	0 0 2	1	F
	Total		**17**	

Semester II

Course code	Course	L T P	Credit	ES
21MAT517A	Statistical Inference	3 0 0	3	A
21MAT516A	Multivariate Statistics and Regression Analysis	3 0 0	3	B
21CSA517A	Machine Learning	3 0 2	4	C
21CSA515A	Big Data Analytics and Hadoop	3 0 2	4	D
21CSA516A	Data Mining	3 0 0	3	E
	Total		**17**	

Semester III

Course code	Course	L T P	Credit	ES
21MAT606A	Statistical Quality Control and Reliability	3 0 0	3	A
21CSA606A	Introduction to Deep Learning	3 0 2	4	B
	Elective I	3 0 0	3	D
	Elective II	3 0 0	3	E
	Elective II	3 0 0	3	F
	Total		**16**	

Semester IV

Course code	Course	L T P	Credit	ES
21MAT698A	Dissertation		10	P
	Total		**10**	

Total credits for the programme: 60

ELECTIVES (any three)

Course code	Course	L T P	Credit	ES
21CSA631A	Taugchi Techniques	3 0 0	3	D/E
21CSA632A	Special Distribution Functions	3 0 0	3	D/E
21CSA633A	Pattern Recognition	3 0 0	3	D/E
21CSA634A	Stochastic Process	3 0 0	3	D/E
21CSA635A	Queuing Theory	3 0 0	3	D/E
21CSA636A	Market Analytics	3 0 0	3	D/E
21CSA637A	Survival Analysis	3 0 0	3	D/E
21CSA638A	Sampling Techniques	3 0 0	3	D/E
21CSA639A	Demography and Actuarial Statistics	3 0 0	3	D/E
21CSA640A	Official Statistics	3 0 0	3	D/E
21CSA641A	Healthcare Analytics	3 0 0	3	D/E
21CSA642A	Computational Biology	3 0 0	3	D/E
21CSA643A	Computer aided drug designing	3 0 0	3	D/E
21CSA644A	Reinforcement Learning	3 0 0	3	D/E
21CSA645A	Social Network Analytics	3 0 0	3	D/E
21CSA646A	Mining of Massive Datasets	3 0 0	3	D/E
21CSA647A	Parallel and Distributed Systems	3 0 0	3	D/E

Industry Electives

Virtual and Augmented Reality (Google)	
21CSA531A	Introduction to VR Programming
21CSA532A	Game programming
21CSA533A	3D interaction design and 3D models for virtual reality
21CSA534A	Augmented Reality for Marketing and Business Integrations
21CSA535A	Cross platform game development
21CSA536A	Designing human computer interfaces
AWS and Cloud computing (Training to earn Amazon certification and badges)	
21CSA541A	Amazon - AWS Academy Cloud Architecting
21CSA542A	Amazon - AWS Academy Data Analytics Lab
21CSA543A	Amazon- AWS Academy Cloud Development
Microsoft Azure Certification	
21CSA551A	Azure AI Engineer
21CSA552A	Azure Data Engineer
21CSA553A	Azure Fundamentals
CISCO and networking (Training to earn CCNA Certifications)	
21CSA561A	CCNA: Enterprise Networking, Security & Automation
21CSA562A	CCNA: Introduction to Networks
21CSA563A	CCNA: Switching, Routing & Wireless Essentials
Security Courses (Training to earn compTia Certifications)	
21CSA571A	EC Council Certified Application Security Engineer (CASE)
21CSA572A	EC Council Certified Ethical Hacker
21CSA573A	EC Council Certified Secure Computer User (CSCU)