

B.Sc. in Data Science and Artificial Intelligence 2021- 2022

Components of Curriculum

B.Sc. Computer Science	132 Credit Hours
University Requirement	27
Cumplutory University Requiriement	12
Requirements Field 1	6
Requirements Field 2	6
Requirements Field 3	3

Faculty Compulsory Requirement	24
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Department Requirement	78
Cumplsory Department Requirement	66
Elective Department Requirement	12

Domain Title	Domain Number
Algorithms and Computation	1
Programming	2
Fundamentals of Data Science and Artificial Intelligence	3
Data Science and Artificial Intelligence	4

Data Science Applications	5
Data Science and Applications	6
Support Area	7
Practical Training	8
Special Topics, Graduation Project	9

Compulsory Faculty Courses (27) Credit Hours

Course No.	Course Name	Credit Hours	Theoretical	Practical	Simultaneous	Pre-Req
0301101	Calculus 1	3	3	0		
2211121	Introduction to Programming	3	3	0		0301101
2211123	Object Oriented Programming	3				
2201211	Data Structure	3	2	1		2201121
2201261	Introduction to Database	3	3	0		2201123
2201353	Computer and Network Security	3	3	0		2201351
2202111	Introduction to Information Technology	3	3	0		
2201111	Discrete Mathematics	3	3	0		
2231201	Computer Ethics and Communication Skills	3	3	0		30 Hours
	Total	27				

Obligatory Speciality Courses (66) credit hours

Course No.	Course Name	Credit Hours	Theoretical	Practical	Simultaneous	Pre-Req
0301131	Principles of Statistics and Probability	3	3	0		0301101

2211122	Introduction to Programming Lab	1	0	3	2211121	2211121
2211124	Object Oriented Programming Lab	1	0	3	2211123	2201123
2201213	Algorithms	3	2	1		2201211
2201214	Algorithms Lab	1	0	3	2211212	2201213
2201262	Introduction to Database Lab	1	0	3	2211261	2201261
2201265	Database Programming	3	2	1		2201261
2201351	Computer Network	3	3	0		2201265
2201431	Operating System	3	3	0		2201213
0221363	Distributed Database	3	3	0		2201261
2221461	Information Retrieval Systems	3	3	0		2202443
2222131	Pattern Recognition	3	2	1		2222241
2222132	Data Modeling and Simulation	3	2	1		2222363
2222133	Knowledge Representation and Reasoning	3				2222133
2222241	Data Science and Artificial Intelligence Programming	3				2222243
2222242	Data Science and Artificial Intelligence Programming Lab	3	3	0	2222241	2222241
2222243	Natural Language Processing	3	3	0		2201123
2222361	Introduction to Artificial Intelligence	3	3	0		2201431
2222362	Artificial Intelligence Lab	2	2	1	2222361	2202460
2222363	Fundamental of Data Science	3	0	3		2202460
2222364	Machine Learning	3	3	0		2202460
2222365	High Performance Computing and Big Data	3	2	1		2222364
2222371	Practical Training	1	1	0		90 Hours
2222441	Data Mining	3	3	0		2222365

2222451	Neural Network/ Data Visualization	3	3	0		2201353
2222461	Data Engineering	3	0	3	2202460	2222363
2222462	Intelligent Mobile Robots	3	3	0		2222364
2222491	Graduation Project-1	1	2	0		100 Hours
2222492	Graduation Project-2	2	2	0		2222491
	Total	66				

Elective Speciality Courses (12) Credit Hours

Course No.	Course Name	Credit Hours	Theoretical	Practical	Simultaneous	Pre-Requrst
2222731	Advanced Object Oriented Programming	3	3	0		2201123
2222732	Digital Image Processing	3	3	0		2201361
0301323	Numerical Analysis -1	3	3	0		2201111
2222735	Human Computer Interaction	3	3	0		2202464
2222736	Cloud Computing and its Application	3				2222365
2222737	Special Topics in DS and AI	3	3	0		2222241
2222738	Computer Vision	3	3	0		2222241
2222739	Robotics Programming	3	3	0		2222241
2222740	Internet of Things and its Applications	2	1	3		2222365
2222741	Internet Programming	3	2	1		2201265
2222742	Fundamentals of Cyber Security	3	0	3		2201353
	Total	32				