

Study Plan (Bachelor of Science in Data Science)

First Semester:

Course code	Course title	Credit hours	Pre-requisites
ENG 101	English I	3	None
CIS 101	Computer Fundamentals	3	None
ISL 201	Islamic Studies	3	None
ST 101	Calculus I	3	None
ST 103	Fundamentals of Computer Programming	3	None
Total		15	

Second Semester:

Course code	Course title	Credit hours	Pre-requisites
ENG 102	English II	3	ENG 101
BUS 201	Innovation and Entrepreneurship	3	None
ST 102	Calculus II	3	ST 101
ST 104	Discrete Mathematics	3	None
ST 105	Advanced Computer Programming	3	ST 103
Total		15	

Third Semester:

Course code	Course title	Credit hours	Pre-requisites
ST 201	Data Structures and Algorithms	3	None
ST 202	Linear Algebra	3	ST 102
ST 203	Probability Theory	3	ST 102
DSA 201	Introduction to Data Science	3	ST 105
ST 204	Database Management Systems	3	ST 105
Total		15	

Fourth Semester:

Course code	Course title	Credit hours	Pre-requisites
ST 205	Statistical Methods for Data Science	3	ST 203
DSA 202	Data Wrangling and Cleaning	3	DSA 201
DSA 203	Machine Learning Fundamentals	3	ST 105
ST 206	Networking and Information Security	3	None
UAE 201	UAE Studies	3	None
Total		15	

Fifth Semester:

Course code	Course title	Credit hours	Pre-requisites
DSA 301	Data Warehousing	3	ST 204
DSA 302	Data Mining	3	ST205
DSA 303	Data Integration	3	DSA 202
DSA 304	Data Science Ethics	3	DSA 201
DSA 305	Data Visualization and Communication	3	DSA 201
Total		15	

Sixth Semester:

Course code	Course title	Credit hours	Pre-requisites
	Elective Course (1)	3	DSA 201
DSA 306	Deep Learning and Neural Networks	3	DSA 203
DSA 307	Natural Language Processing (NLP)	3	DSA 203
DSA 308	AI in Business	3	DSA 201
DSA 309	Big Data Analytics	3	DSA 305
Total		15	

Seventh Semester:

Course code	Course title	Credit hours	Pre-requisites
	Elective Course (2)	3	DSA 201
DSA 401	Real-Time Data Processing	3	DSA 303
DSA 402	Data Pipeline Development	3	DSA 303
DSA 403	Governance and Accountability in AI	3	DSA 304
DSA 404	Data Privacy and Security	3	DSA 304
	Elective Course (3)	3	DSA 201
Total		18	

Eight Semester:

Course code	Course title	Credit hours	Pre-requisites
DSA 405	Research in Data Science	3	DSA 203, DSA 306
DSA 406	Web and Social Media Analytics	3	DSA 203
DSA 495	Research Practicum (Internship)	3	Completion 90 Cr.H.
DSA 499	Data Science Capstone	6	Completion 90 Cr.H.
Total		15	

