

Advanced Diploma (Data Science and Artificial Intelligence)

TOTAL CREDITS = 36

Course Code	Course Title	Credit Hours	University/ College/ Specialization Requirement	Prerequisite	Semester
CSDS3101	Fundamentals of Big Data	3	Specialization	CSDS2101 – Database Systems	Semester 1
STAT3101	Probability and Statistics	3	College	MATH1202 – Calculus I	
UNEN3104	English III (Public Speaking)	3	University		
MATH3202	Discrete Structures	3	Specialization	MATH2101 – Mathematics for Computing	
CSPM3201	Project Management and Acquisition	3	College	CSSE2101 – Introduction to Software Engineering OR CSIS2101 – System Analysis & Design	
	Major Elective 1	3	Specialization		
CSDS3202	Introduction to Data Science	3	Specialization	CSPG1205 – Introduction to Programming + STAT3101 – Probability and Statistics	Semester 2
CSDS3203	Introduction to Artificial Intelligence		Specialization	CSSE2203 – Data Structures and Algorithms	
CSDS3204	Data Warehouse Design	3	Specialization	CSDS2101 – Database Systems	
CSRM3202	Research Methodology	3	College	STAT3101 – Probability and Statistics	
MATH3203	Mathematics for Machine Learning	3	Specialization	MATH2101 – Mathematics for Computing	
	Major Elective 2	3	Specialization		

B-Tech (Data Science and Artificial Intelligence Specialization)**TOTAL CREDITS = 36**

Course Code	Course Title	Credit Hours	University/ College/ Specialization Requirement	Prerequisite	Semester
CSDS4101	Big data Analytics	3	Specialization	CSDS3101 – Fundamentals of Big Data	Semester 1
CSDS4102	Natural Language Processing	3	Specialization	CSDS3203 – Introduction to Artificial Intelligence	
CSDS4103	Business Intelligence	3	Specialization	CSDS3101 – Fundamentals of Big Data	
CSDS4104	Applied Machine Learning	3	Specialization	CSDS3203 – Introduction to Artificial Intelligence + CSDS3202 – Introduction to Data Science	
CSDS4105	B-Tech Course Project I	3	Specialization	CSDS3203 – Introduction to Artificial Intelligence + CSDS3202 – Introduction to Data Science + CSRM3202 – Research Methodology	
	Major Elective 3	3	Specialization		
CSDS4209	B-Tech Course Project II	3	Specialization	CSDS4105 – B-Tech Course Project I	Semester 2
CSDS4206	Computer Vision		Specialization	CSDS4104 – Applied Machine Learning	
UNAB4105	Arabic Language Skills	3	College		
CSDS4207	Data Mining	3	Specialization	CSDS3202 – Introduction to Data Science	
CSDS4208	Deep Learning	3	Specialization	CSDS4104 – Applied Machine Learning	
	Major Elective 4	3	Specialization		

Adv. Diploma & B-Tech Elective Pool

Course	Course title	Credit Hours	University/ College/ Specialization Requirement	Prerequisite
CSSE3104	Computer Graphics and Games Development	3	Specialization	CSPG1205 – Introduction to Programming
CSSE3205	Fundamentals of Robotics	3	Specialization	CSPG1205 – Introduction to Programming
CSSE4106	DevOps and Continuous Delivery	3	Specialization	CSPM3201 – Project Management and Acquisition
CSSE4107	Theory of Computation	3	Specialization	MATH3202 – Discrete Structures
CSSE4208	Innovation and Emerging Technologies	3	Specialization	NONE
CSNW3203	System Administration	3	Specialization	CSOP1207 – Principles of Operating Systems
CSNW3202	Cloud Computing Fundamentals	3	Specialization	NONE
CSIS3101	Business Process Management	3	Specialization	CSSE2101 – Introduction to Software Engineering OR CSIS2101 – Systems Analysis & Design
CSIS3103	User Experience Design	3	Specialization	NONE
CSIS3102	IS Management and Strategy	3	Specialization	CSCM1101 – Fundamentals of Computing and Information Systems
CSSE3101	Advanced Web Technologies	3	Specialization	CSWD1103 – Web Development I
CSSY3202	Web Applications Security	3	Specialization	CSWD2101 – Web Development II
CSSY3205	Authentication and Access Control	3	Specialization	CSSY1208 – Introduction to Information Security
CSDS4111	Introduction to Blockchain	3	Specialization	NONE
CSDS3205	Data Visualization	3	Specialization	NONE
CSDS3105	Database Programming	3	Specialization	CSDS2101 – Database Systems
CSDS4212	Information Retrieval	3	Specialization	CSDS3202 – Introduction to Data Science
CSDS4210	Pattern Recognition	3	Specialization	CSDS4104 – Applied Machine Learning

University Elective courses across all levels:

course	Course title	Credit hours	University/ College/ Specialization Requirement	Prerequisite
UNCS2215	Communication Skills	3	University	
UNPR2217	Preparing for Work	3	University	
UNWE2216	Working Ethics	3	University	
UNIS2206	Islamic Studies	3	University	
UNOC2207	Oman Civilization and Man	3	University	
UNCT2210	Critical Thinking	3	University	
UNCL2211	Chinese Language	3	University	
UNFL2213	French Language	3	University	
UNGL2215	German Language	3	University	