Study Plan for BachelorDegree in Data Science & Artificial Intelligence for year 2019-2020

The Bachelor Degree in Data Science & Artificial Intelligence awarded at Princess Sumaya University for Technology after the successful completion of 132 Credit Hours distributed as follows:-

University Requirements (27 CHs)

1. Compulsory Requirements (12 CHs)

Course Number	Course Title	Credit Hours	Prerequisite	Concurrent
11100	Computer Skills (Remedial)	0		
31019	Arabic Language (Remedial)	0		
31029	English Language (Remedial)	0		
31111	Arabic Language	3	31019	
31121	English Language	3	31029	
31151	National Education	3		
31153	Introduction to Society, Technology and Environment Protection	0		
31154	Community Service	0		
31251	Military Science	3		

2. Elective Requirements (15 CHs)

2.1. Elective University Requirements (General) (6 CHs)

Course Number	Course Title	Credit Hours	Prerequisite	Concurrent
20251	History of Science	3		
20252	Arab Islamic Scientific Heritage	3		
31100	Sports and Health	3		
31152	Arabic Islamic Civilization	3		
31161	Introduction to Library Science	3		
31211	Arabic Literature	3	31111	
31252	Governance and Development	3		
31261	Introduction to Politics and Economic Science	3		
31262	Introduction to Educational Science	3		
31271	Environmental Science	3		
31351	Contemporary Issues in the Arab World	3		
31352	Jerusalem : History and Facts	3		
31361	Introduction to Philosophy	3		
31371	Health Education	3		

2.2. Elective University Requirements (Scientific, Practical) (9 CHs)

Course Number	Course Title	Credit Hours	Prerequisite	Concurrent
31130	Foreign languages	3		
31255	Entrepreneurship for Business	3	Finish 60 Credit Hours	
31311	Scientific Research Methods	3		
31373	21st Century Skills	3	Finish 60 Credit Hours	

School Requirements (25 CHs)

1. Compulsory Requirements (25 CHs)

Course Number	Course Title	Credit Hours	Prerequisite	Concurrent
11102	Introduction to Computer Science	3		
11103	Structured Programming	3	11102	
11151	Structured Programming Lab	1		11103
20132	Calculus (1)	3		
20133	Calculus (2)	3	20132	
20134	Discrete Mathematics (1)	3		
20200	Technical Writing and Communication Skills	3	31111,31121	
20233	Statistical Methods	3		
20234	Linear Algebra	3	20133	

Program Requirements (80 CHs)

1. Compulsory Requirements (68 CHs)

Course Number	Course Title	Credit Hours	Prerequisite	Concurrent
11206	Object Oriented Programming	3	11103	
11212	Data Structures and Introduction to Algorithms	3	11206	
11253	Object Oriented Programming Lab	1		11206
11313	Algorithms Design and Analysis	3	11212	
11323	Database Systems	3	11212	
11335	Operating Systems	3	11212	
11354	Database Systems Lab	1		11323
11355	Operating Systems Lab	1		11335
11436	Distributed Systems	3	11335	
11449	Computer and Society	1	Finish 90 Credit Hours	
11464	Information Systems Security	3	11335	
13477	Software Engineering	3	11323	
14140	Introduction to Data Science	3	11102	
14260	Data Engineering	3	14140	
14261	Data Engineering Lab	1		14260
14270	Statistics and Probability for Data Science	3	20233	
14330	Artificial Intelligence	3	11212	
14350	Computer Architecture for Machine Learning	3	14330	
14351	Natural Language Processing	3	14330	
14362	High Performance Computing for Big Data	3	14260	
14364	Data Visualization	3	14362	
14391	Practical Training	3	Finish 90 Credit Hours	
14452	Pattern Recognition	3	14330	
14465	Data Mining	3	14362	
14466	Business Intelligence	3	14364	
14492	Graduation Project 1	1	Finish 90 Credit Hours	
14493	Graduation Project 2	2	14492	

2. Elective Requirements (12 CHs)

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Course Number	Course Title	Credit Hours	Prerequisite	Concurrent
11344	Advanced Topics in Internet Programming	3	11323	
11435	Data Communications & Computer Networks	3	11335	
12348	Multimedia Systems	3	11206	
12446	Digital Image Processing	3	11212	
13432	Software Project Management	3	11425	
14357	Special Topic In Data Science and AI (1)	3		
14455	Information Retrieval	3	11206	
14456	Robotics Programming	3	11103	
14458	Computer Vision	3	12446	
14467	Cloud Computing	3	11335	
14468	Security and Privacy of Big data	3	11464	
14469	Special Topic In Data Science and AI (2)	3		