



Bachelor of Science in Data Science and Artificial Intelligence

عبدالله السالم
2023-2024
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University

1) General Program Presentation

Graduating with a Bachelor of Science in Data Science and Artificial Intelligence necessitates the successful completion of a total of 120 credit hours (CH). These credit hours are distributed across different requirements, encompassing courses that are essential as well as those that can be chosen as elective courses. The table below shows how 120 credit hours are distributed across requirements:

Table 1: Program credit hours distribution.

General Education Requirements	36 Credits
College Requirements	40 Credits
Program requirements	44 Credits (Including 6 CH electives)
Total Credits Hours	120 Credits

2) General Education (36 Credits)

Students here are required to complete 36 credit hours distributed over five sections as follows:

Communication (9 Credits)

Table 2: General education communication courses.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
ENL101	English for Academic Studies	(3 credits)	3		ICT095*
ENL102	English Composition	(3 credits)	3	ENL101	
ENL201	Writing and Research	(3 credits)	3	ENL102	

*Preparatory Program: ICT 095 Information Technology Basics.

Innovation and Creativity (6 Credits)

Table 3: Innovation and Creativity Ethics compulsory course.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
GEN150	Professionalism and Ethics	(3 credits)	3		

Table 4: General education innovation and creativity elective courses (students should select one course from the following list).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
GEN131	Creativity and Problem Solving	(3 credits)	3		
BUS101	Entrepreneurship Essentials	(3 credits)	3		
ENI110	Intro. to Innovation and Creativity	(3 credits)	3		
ENI140	Design Thinking	(3 credits)	3		
ENI150	Innovation in Business Models	(3 credits)	3		
ENI160	Innovation and Globalization	(3 credits)	3		

Global Citizen (6 Credits)

Table 5: General education global citizen compulsory course.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
INF120	Computers and Information Systems	(3 credits)	3	ICT095	

Table 6: General education global citizen elective courses (students should select one course from the following list).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
GEN201	Globalization and Sustainability	(3 credits)	3		
GEN202	Global Citizenship in the Digital Age	(3 credits)	3		
BUS201	Global Economics and Trade	(3 credits)	3		

Art and Humanities (9 Credits)

Table 7: General education art and humanities compulsory course.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
HST 101	Islamic Culture and Values	(3 credits)	3		

Table 8: General education art and humanities elective course group I (students should select one course from the following list).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
HST102	Kuwait History	(3 credits)	3		
ARB101	Arabic Communication skills	(3 credits)	3		
ART101	Art Appreciation	(3 credits)	3		
ART102	Intro. To Media and Communication	(3 credits)	3		

Table 9: General education art and humanities elective course group II (students should select one course from the following list).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
PHL101	Introduction to Philosophy	(3 credits)	3		
LAW101	Law and Society	(3 credits)	3		
PSY 101	Introduction to Psychology	(3 credits)	3		
SOC 101	Introduction to Sociology	(3 credits)	3		

Math and Science (6 Credits)

Table 10: General education math and science courses (6 credits).

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite	Note
MAT101	Calculus I	(3 credits)	3	IMP099* or Equivalent		
PHY101	Physics I	(3 credits)	3		MAT101	

*Preparatory Program: IMP099 Precalculus.

3) College Requirements (40 Credits)

- **Math and Science (17 Credits)**

Table 11: Math and Science courses.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
PHY105	Physics Lab I	(1 credit)	3		PHY101
MAT120	Discrete Mathematics	(3 credits)	3		
BIO101 or CHM101	Biology I or Chemistry I	(3 credits)	3		
BIO105 or CHM105	Biology I Lab or Chemistry I Lab	(1 credit)	3		BIO101 / CHM101
MAT202	Linear Algebra	(3 credits)	3	MAT101	
ENG304	Engineering Probability & Statistics	(3 credits)	3	MAT101	
ENG308	Numerical Methods	(3 credits)	3	CCS120	

- **Computing requirements (23 Credits)**

Table 12: Engineering courses.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
CCS120	Computational Thinking & Programming	(3 credits)	3	MAT120	
CCS121	Computational Thinking & Programming Lab	(1 credit)	3		CCS120
CCS220	Object-Oriented Design & Programming	(3 credits)	3	CCS120	
CCS221	Object-Oriented Design & Programming Lab	(1 credit)	3		CCS220
CCS230	Fundamentals of Database Systems	(3 credits)	3	CCS220 MAT120	
CCS231	Fundamentals of Database Systems Lab	(1 credit)	3		CCS230
CCS270	Data Structures and Algorithms	(3 credits)	3	CCS220	

CCS271	Data Structures and Algorithms Lab	(1 credit)	3		CCS270
CCS342	IT Infrastructure	(3 credits)	3	INF120	
CCS330	Web Engineering	(3 credits)	3	CCS230	
CCS331	Web Engineering Lab	(1 credit)	3		CCS330

4) Program Requirements (44 Credits):

- **Program Requirements (38 Credits)**

Table 13: Program courses.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
DAI230	Mathematics for Data Science & AI	(3 credits)	3	MAT120	
DAI250	Fundamentals of Data Science & AI	(3 credits)	3	DAI230	
DAI251	Fundamentals of Data Science & AI Lab	(1 credit)	3		DAI250
DAI310	Machine Learning	(3 credits)	3	DAI250	
DAI311	Machine Learning Lab	(1 credit)	3		DAI310
DAI330	Data Warehousing and Data Mining	(3 credits)	3	CCS230	
DAI331	Data Warehousing and Data Mining Lab	(1 credit)	3		DAI330
DAI351	Advanced Machine Learning	(3 credits)	3	DAI310	
DAI352	Advanced Machine Learning Lab	(1 credit)	3		DAI351
DAI374	Data Ethics, Governance, and Laws	(3 credits)	3	DAI351	
DAI421	Data Analytics and Visualization	(3 credits)	3	DAI 250	
DAI430	Big Data Systems	(3 credits)	3	DAI330	
DAI431	Big Data Systems Lab	(1 credit)	3		DAI430
DAI440	Distributed Computing	(3 credits)	3	CCS342	
DAI490	Capstone Design 1	(3 credits)	3	Program Approval	
DAI491	Capstone Design 2	(3 credits)	3	DAI490	

- **Program Electives (6 Credits)**

Table 14: Program elective courses.

Course Code	Course Title	Credit hours	Contact hours	Pre-requisite	Co-requisite
DAI480	Internship	(3 credits)	3	Program Approval	
DAI432	Security Aspects of Data Science & AI	(3 credits)	3	DAI330 DAI351	

DAI462	Computer Vision and Pattern Recognition	(3 credits)	3	DAI351
DAI463	Natural Language Processing	(3 credits)	3	DAI351
DAI475	Business Intelligence and Decision Support Systems	(3 credits)	3	DAI351
DAI476	Data Analytics for Risk Management & Strategic Planning	(3 credits)	3	DAI330
DAI495	Special topics in Data Science	(3 credits)	3	Program Approval
DAI496	Special topics in Artificial Intelligence	(3 credits)	3	Program Approval

- Students can take up to three credits of technical electives from another program or institution.