Curriculum Structure and Credit Hours

The Bachelor of Science degree in Data Analytics requires the completion of 120 credit hours of course work. In addition, the student is required to complete an internship program of 16 weeks (at least 30 contact hours per week) after completing 90 credit hours. This internship experience is equivalent to three credit hours making the total completion requirements as 123 credit hours.

Program Structure

The Bachelor of Science degree in Data Analytics requires the completion of 123 credit hours distributed according to the following plan:

Type of Courses	Credit hours
1. General Education Requirements	
(a) University Compulsory Courses	18
(b) University Elective Courses	12
2. Data Analytics Program Courses	
(a) Mathematics and Statistics Courses	15
(b) Program Core Courses	66
(c) Program Elective Courses	9
(d) Internship	3
Total Credit Hours	123

Program Courses

1. University General Education Courses

(a) University Compulsory Courses *(18 Cr.Hrs.)*

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
AUL100	Introduction to University Life	1	0	0	0	-
EMS 112	Emiratis Studies	3	0	0	3	-
ENG 114	Advanced English Writing	3	0	0	3	-
ENG211	Public Speaking	3	0	0	3	-
THI212	Critical thinking and Quantitative Reasoning	3	0	0	3	-
INN311	Innovation & Sustainable Entrepreneurship	3	0	0	3	60 Credit Hours
STA 114	General Statistics	2	2	0	3	-

(b)University Elective Courses *(12 Cr.Hrs.)*

Course Code	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
	1. Humanities / Arts (3 Credit Hours)					
ART 111	Introduction to Arts	3	0	0	3	-
COM103	Introduction to Film Studies	3	0	0	3	-
FRE211	Conversational French	3	0	0	3	-
HPS111	History and Philosophy of Science	3	0	0	3	-
ISL114	Islamic Culture	3	0	0	3	-
LAW106	Human Rights	3	0	0	3	-
WLT115	World Literature	3	0	0	3	-
	2. Natural Sciences (3 Credit Hours)					
AST211	Astronomy	3	0	0	3	-
BIO111	General Biology	2	2	0	3	-
CHM111	General Chemistry	2	2	0	3	-
ENV113	Science of Energy and Global Environment	3	0	0	3	-
FUT101	The Science of the Future	3	0	0	3	-
GEO102	Planet Earth	3	0	0	3	-
PHY111	General Physics	3	0	0	3	-
	3. Social or Behavioral Sciences (6 Credit Hours)					
COM102	Media Culture	3	0	0	3	-
CRM101	Introduction to Criminology	3	0	0	3	-
LAW112	Work Ethics	3	0	0	3	-
LED111	Leadership and Team Building	3	0	0	3	-
PSY111	General Psychology	3	0	0	3	-
SSW111	Social Responsibility	1	4	0	3	-

2. Data Analytics Program Compulsory Courses

(a) Mathematics and Statistics Courses (15 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
DAT201	Linear Algebra	3	0	2	3	INT101
DAT203	Probability Theory and its Applications	3	0	0	3	STA114
DAT305	Statistical Modelling	3	0	2	3	DAT203
INT101	Calculus for Information Technology	3	0	2	3	-
INT202	Discrete Mathematics	3	0	2	3	INT101

(b) Program Core Courses & Internship (69 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
DAT100	Introduction to Data Analytics	2	2	0	3	-
DAT204	Data Engineering	2	2	0	3	DAT100
DAT205	Programming for Data Analytics I	2	2	0	3	INT100
DAT206	Data Visualization	2	2	0	3	DAT204
DAT302	Programming for Data Analytics II	2	2	0	3	DAT205
DAT304	Data Analytics Ethics	3	0	0	3	DAT206
DAT323	Big Data Technologies	2	2	0	3	INT302
DAT401	Data Mining	2	2	0	3	DAT302
DAT402	Text and Web Mining	2	2	0	3	DAT401
DAT403	Data Analytics Capstone Project	1	4	0	3	DAT401
DAT404	Business and Social Analytics	2	2	0	3	INS402
DAT405	Machine Learning	2	2	0	3	DAT401
DAT407	Data Analytics Internship	16 weeks-Sector normal hours min 30 per week			3	90 Cr. Hrs.
INS402	Business Intelligence	2	2	0	3	INT302
INT100	Introductory Programming	2	2	2	3	-
INT201	Object Oriented Programming	2	2	2	3	INT100
INT205	Fundamentals of Data Communications and Networking	2	2	0	3	INT201
INT209	Data Structures	3	0	2	3	INT201, INT202
INT301	Operating Systems	2	2	0	3	INT201
INT302	Database Management Systems	2	2	0	3	INT201
INT303	Fundamentals of Information Security	3	0	0	3	INT205
INT305	Fundamentals of Software Engineering	3	0	0	3	INT201
INT430	Artificial Intelligence	2	2	0	3	INT302

(c) Program Elective Courses (9 Credit Hours)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
BAI301	Deep and Reinforcement Learning	2	2	0	3	DAT405
BAI302	Evolutionary Computation	2	2	0	3	INT430
BAI312	Machine Learning Operations	2	2	0	3	BAI301 and DAT323
BAI411	Internet of Things	2	2	0	3	INT309

BAI430	Semantic Web	3	0	0	3	DAT402
BAI432	Recommender System	3	0	0	3	DAT405
DAT410	Selected Topics in Data Analytics	3	0	0	3	DAT302
DAT411	Advanced Data Analytics	2	2	0	3	DAT401
INT206	Fundamentals of Web Systems	2	2	0	3	INT201
INT307	Information Technology Project Management	3	0	0	3	INT305
INT309	Cloud Computing	2	2	0	3	INT301
INT313	User Interface Design	3	0	0	3	INT313
INT321	Database Administration	2	2	0	3	INT302
INT435	Game Programming	2	2	0	3	INT201
INT456	Blockchain and Cryptocurrency Security	3	0	0	3	INT303