

Data Science and Artificial Intelligence

Study Plan

	Course Code	Course Title	Course Type	Pre-R	Co-R	Credit Hours	Contact Hours
Semester 1	ENL101	English for Academic Studies	UM	IEP099 or Equivalent	DPS095	3	3
	MAT101	Calculus I	UM	IMP099 or Equivalent		3	3
	PHY101	Physics I	UM		MAT101	3	3
	PHY105	Physics I Lab	CM		PHY101	1	3
	MAT120	Discrete Mathematics	CM	IMP099 or Equivalent		3	3
	INF120	Computers and Information Systems	UM	DPS095		3	3
Total						16	18
Semester 2	BIO101 or CHM101	Biology I or Chemistry I	CM	IMP099 or Equivalent		3	3
	BIO105 or CHM105	Biology I Lab or Chemistry I Lab	CM		BIO101 or CHM101	1	3
	XXXX	Arts and Humanities (Group I) Elective	UM			3	3
	ENL102	English Composition	UM	ENL101 DPS095		3	3
	CCS120	Computational Thinking & Programming	CM	MAT120		3	3
	CCS121	Computational Thinking & Programming Lab	CM		CCS120	1	3
Total						14	18
Semester 3	MAT202	Linear Algebra	CM	MAT101		3	3
	ENL201	Writing and Research	UM	ENL102		3	3
	CCS220	Object-Oriented Design & Programming	CM	CCS120		3	3
	CCS221	Object-Oriented Design & Programming Lab	CM		CCS220	1	3
	DAI230	Mathematics for Data Science & AI	PM	MAT120		3	3
	GEN150	Professionalism and Ethics	UM			3	3
Total						16	18

	Course Code	Course Title	Course Type	Pre-R	Co-R	Credit Hours	Contact Hours
Semester 4	MAT102	Calculus II	CM	MAT101		3	3
	HST101	Islamic Culture and Values	UM			3	3
	CCS230	Fundamentals of Database Systems	CM	CCS220 MAT120		3	3
	CCS231	Fundamentals of Database Systems Lab	CM		CCS230	1	3
	XXXX	Arts and Humanities (Group II) Elective	UM			3	3
	XXXX	Innovation and Creativity Elective	UM			3	3
Total						16	18

Semester 5	XXXX	Global Citizen Elective	UM			3	3
	CCS270	Data Structures and Algorithms	CM	CCS220		3	3
	CCS271	Data Structures and Algorithms Lab	CM		CCS270	1	3
	ENG304	Engineering Probability & Statistics	CM	MAT102		3	3
	CCS342	IT Infrastructure	CM	INF120		3	3
	DAI250	Fundamentals of Data Science & AI	PM	DAI230		3	3
	DAI251	Fundamentals of Data Science & AI Lab	PM		DAI250	1	3
Total						17	21

Semester 6	DAI330	Data Warehousing and Data Mining	PM	CCS230		3	3
	DAI331	Data Warehousing and Data Mining Lab	PM		DAI330	1	3
	DAI310	Machine Learning	PM	DAI250		3	3
	DAI311	Machine Learning Lab	PM		DAI310	1	3
	DAI421	Data Analytics and Visualization	PM	DAI250		3	3
	DAI440	Distributed Computing	PM	CCS342		3	3
Total						14	18

	Course Code	Course Title	Course Type	Pre-R	Co-R	Credit Hours	Contact Hours
Semester 7	XXXX	Program Elective1	PE			3	3
	DAI351	Advanced Machine Learning	PM	DAI310		3	3
	DAI352	Advanced Machine Learning Lab	PM		DAI351	1	3
	CCS330	Web Engineering	CM	CCS230		3	3
	CCS331	Web Engineering Lab	CM		CCS330	1	3
	DAI490	Capstone Design 1	PM	Pass 87 CH		3	3
<i>Total</i>						14	18
Semester 8	DAI491	Capstone Design 2	PM	DAI490		3	3
	DAI374	Data Ethics, Governance, and Laws	PM	DAI351		3	3
	DAI430	Big Data Systems	PM	DAI330		3	3
	DAI431	Big Data Systems Lab	PM		DAI430	1	3
	XXXX	Program Elective 2	PE			3	3
<i>Total</i>						13	15

Note that the University Mandatory (UM), College Mandatory (CM), Program Mandatory (PM), and Program Elective (PE) courses