

Semester-Wise Road Map

BS (AI): 4-year Program, 8 Semesters, 42 Courses, 133 Credit Hours

1st Year (1st Semester)

Course Code	Course Title	Cr. Hrs	Pre-requisite
CC1021	Programming Fundamentals	3	
CC1021L	Programming Fundamentals Lab	1	
	Supporting Elective I (e.g. Basic Electronics)	2	
	Supporting Elective I (e.g. Basic Electronics Lab)	1	
	Supporting Elective II (e.g. Calculus and Analytical Geometry)	3	
EN111	English Grammar & Comprehension	3	
IT1091	Introduction to Info. and Comm. Technologies	2	
IT1091L	Introduction to Info. and Comm. Technologies Lab	1	
	Semester Credit Hours	16	

1st Year (2nd Semester)

Course Code	Course Title	Cr. Hrs	Pre-requisite
CC2031	Digital Logic Design	3	
CC2031L	Digital Logic Design Lab	1	
CC1041	Discrete Structures	3	
EN125	Composition and Communication	3	EN 111
CC1022	Object Oriented Programming	3	CC1021, CC1021L
CC1022L	Object Oriented Programming Lab	1	CC1021, CC1021L
POL101	Pakistan Studies	3	
	Semester Credit Hours	17	

2nd Year (3rd semester)

Course Code	Course Title	Cr. Hrs	Pre-requisite
CC2042	Data Structures & Algorithms	3	CC1022, CC1022L
CC2042L	Data Structures & Algorithms Lab	1	CC1022L, CC1022L
MA150	Probability and Statistics	3	
AI3151	Artificial Intelligence	3	
	Humanities Elective I	3	
AI3141w	Theory of Automata	3	
	Credit Hours	16	

2nd Year (4th semester)

Course Code	Course Title	Cr. Hrs	Pre-requisite
ISL101	Islamic Studies	3	
CC3011	Operating Systems	3	CC2042, CC2042L
CC3011L	Operating Systems Lab	1	CC2042, CC2042L
AI2160	Information Theory for AI	3	
CC2141	Database Systems	3	CC2042, CC2042L
CC2141L	Database Systems Lab	1	CC2042, CC2042L
MA210	Linear Algebra	3	
	Semester Credit Hours	17	

3rd Year (5th semester)

Course Code	Course Title	Cr. Hrs	Pre-requisite
AI3158	Agent Based Systems	3	
CC3071	Computer Networks	3	
CC3071L	Computer Networks Lab	1	
AI4122	Cyber Security	3	
	AI Elective I	3	
AI4132	Data Mining	3	
	Humanities Elective II	3	
	Semester Credit Hours	19	

3rd Year (6th semester)

Course Code	Course Title	Cr. Hrs	Pre-requisite
EN220	Research Paper Writing and Presentation	3	EN125
AI3124	Signals and Systems	3	
CC2101	Software Engineering	3	CC1022, CC1022L
AI4154	Machine Learning	3	
	AI Elective-II	3	
CC3121	Information Security	3	
	Semester Credit Hours	18	

4th Year (7th semester)

Course Code	Course Title	Cr. Hrs	Pre-requisite
CC4181	Final Year Project-I	3	
AI3107	Soft Computing	3	
	Humanities Elective III	3	
	AI Elective III	3	
	AI Elective IV	3	
	Semester Credit Hours	15	

4th Year (8th Semester)

Course Code	Course Title	Cr. Hrs	Pre-requisite
CC4182	Final Year Project-II	3	CC4181
SE4092	Professional Practices	3	
	Humanities Elective IV	3	
	Supporting Elective-III	3	
	AI Elective-V	3	
	Semester Credit Hours	15	