

Study Plan

Programme Study Plan (Artificial Intelligence Track)						
No.	Course Code	Course Title	Prerequisite	ASU Credit	NQF Credit	NQF Level
Year 1 – First Semester (18 credit hours)						
1	ENG111	Upper-Intermediate English	Oxford test score > 50 / ENG098	3	12	5
2	CS104	Computer Skills	-	3	12	5
3	CSC101	Mathematics 1	-	3	12	6
4	CSC110	Introduction to Programming	-	3	12	6
5	CSC103	Probability and Statistics	-	3	12	6
6	-	University Elective Group (2)	-	3	12	5
Year 1 – Second Semester (18 credit hours)						
1	ENG112	Advanced English	ENG111	3	12	5
2	CSC106	Mathematics 2	CSC101	3	12	6
3	HR106	Human Rights	-	3	12	5
4	CSC102	Discrete Mathematics	-	3	12	6
5	CSC104	Physics	-	3	12	6
6	CSC112	Object-Oriented Programming 1	CSC110	3	12	6
Year 2 – First Semester (18 credit hours)						
1	-	University Elective Group (1)	-	3	12	6
2	ARB101	Arabic Language	-	3	12	6
3	CSC230	Digital Logic Design	CSC102	3	12	6
4	CSC205	Linear Algebra	CSC101	3	12	6
5	CSC242	Communication Skills and Professional Ethics	ENG111	3	12	6
6	CSC215	Data Structures	CSC112	3	12	7
Year 2 – Second Semester (18 credit hours)						
1	CSC261	Cryptography and Information security	CSC103 + CSC110	3	12	7
2	BA161	Introduction to Entrepreneurship	-	3	12	6
3	CSC221	Database Systems	CSC112	3	12	6
4	CSC231	Computer Organization and Architecture	CSC230	3	12	7
5	CSC353	Artificial Intelligence Programming	CSC110	3	12	7

6	CSC208	Algorithms Design and Analysis	CSC215	3	12	7
Year 3 – First Semester (18 credit hours)						
1	CSC351	Artificial Intelligence	CSC215	3	12	7
2	HBH105	Bahrain Civilization and History	-	3	12	6
3	CSC309	Formal Languages and Automata Theory	CSC102	3	12	7
4	CSC354	Machine Learning	CSC215	3	12	7
5	CSC331	Operating Systems	CSC231	3	12	7
6	CSC324	Web Software Development	CSC221	3	12	7
Year 3 – Second Semester (15 credit hours)						
1	CSC313	Programming language concepts	CSC309	3	12	7
2	CSC352	Data Mining	CSC351	3	12	8
3	CSC342	Scientific Research Methods	CSC103	3	12	7
4	CSC332	Data Communication and Computer Networks	CSC331	3	12	8
5	CSC355	Deep Learning	CSC354	3	12	8
Year 3 – Summer (3 credit hours)						
1	CSC441	Internship	90 Hrs	3	24	8
Year 4 – First Semester (15 credit hours)						
1	CSC453	Computer Vision	CSC355	3	12	8
2	CSC451	Special Topics in Artificial Intelligence	90 Hrs	3	12	8
3	CSC425	Graduation Project 1	CSC342 + 90 Hrs	3	12	8
4	CSC438	Parallel and Distributed Computing	CSC332	3	12	8
5	CSC452	Natural Language Processing	CSC355	3	12	8
Year 4 – Second Semester (12 credit hours)						
1	CSC426	Graduation Project 2	CSC425	3	12	8
2	CSC456	Big Data Processing	CSC221 + CSC352	3	12	8
3	CSC454	Business Intelligence	CSC352	3	12	8
4	CSC455	Smart Systems & IoT	CSC332 + CSC351	3	12	8

University Compulsory Courses (21 Credit Hours)						
No.	Course Code	Course Title	Prerequisite	ASU Credit	NQF Credit	NQF Level
1	ENG111	Upper-Intermediate English	Oxford test score > 50 / ENG098	3	12	5
2	CS104	Computer Skills	-	3	12	5
3	ENG112	Advanced English	ENG111	3	12	5
4	HR106	Human Rights	-	3	12	5
5	ARB101	Arabic Language	-	3	12	6
6	HBH105	Bahrain Civilization and History	-	3	12	6
7	BA161	Introduction to Entrepreneurship	-	3	12	6

University Elective Courses (6 Credit Hours, one from each group)						
No.	Course Code	Course Title	Prerequisite	ASU Credit	NQF Credit	NQF Level
Group 1 (3 Credit Hours)						
1	ISL101	Islamic Culture	-	3	12	6
2	ISL102	Islamic Ethic	-	3	12	6
3	ISL103	Islam & Contemporary	-	3	12	6
Group 2 (3 Credit Hours)						
1	LIB101	Introduction to Library Science	-	3	12	5
2	MAN101	Man and Environment	-	3	12	5
3	SOC101	Introduction to Sociology	-	3	12	5
4	SPT101	Special Topics	-	3	12	5
5	CS205	Computer Application	CS104	3	12	5
6	LFS102	Thinking and Communication Skills Development	-	3	12	5

College Compulsory Courses (21 Credit Hours)						
No.	Course Code	Course Title	Prerequisite	ASU Credit	NQF Credit	NQF Level
1	CSC101	Mathematics 1	-	3	12	6
2	CSC102	Discrete Mathematics	-	3	12	6
3	CSC103	Probability and Statistics	-	3	12	6
5	CSC104	Physics	-	3	12	6
4	CSC110	Introduction to Programming	-	3	12	6

6	CSC242	Communication Skills and Professional Ethics	ENG111	3	12	6
7	CSC342	Scientific Research Methods	CSC103	3	12	7

Compulsory Courses - Computer Science (AI Track) (87 Credit Hours)						
No.	Course Code	Course Title	Prerequisite	ASU Credit	NQF Credit	NQF Level
1	CSC106	Mathematics 2	CSC101	3	12	6
2	CSC112	Object-Oriented Programming 1	CSC110	3	12	6
3	CSC205	Linear Algebra	CSC101	3	12	6
4	CSC208	Algorithms Design and Analysis	CSC215	3	12	7
5	CSC215	Data Structures	CSC112	3	12	7
6	CSC221	Database Systems	CSC112	3	12	6
7	CSC230	Digital Logic Design	CSC102	3	12	6
8	CSC231	Computer Organization and Architecture	CSC230	3	12	7
9	CSC261	Cryptography and Information security	CSC103 + CSC110	3	12	7
10	CSC309	Formal Languages and Automata Theory	CSC102	3	12	7
11	CSC313	Programming language concepts	CSC309	3	12	7
12	CSC324	Web Software Development	CSC221	3	12	7
13	CSC331	Operating Systems	CSC231	3	12	7
14	CSC332	Data Communication and Computer Networks	CSC331	3	12	8
15	CSC351	Artificial Intelligence	CSC215	3	12	7
16	CSC438	Parallel and Distributed Computing	CSC332	3	12	8
17	CSC425	Graduation Project 1	CSC342 + 90 Hrs	3	12	8
18	CSC426	Graduation Project 2	CSC425	3	12	8
19	CSC441	Internship	90 Hrs	3	24	8
20	CSC352	Data Mining	CSC351	3	12	8
21	CSC353	Artificial Intelligence Programming	CSC110	3	12	7
22	CSC354	Machine Learning	CSC215	3	12	7
23	CSC355	Deep Learning	CSC354	3	12	8
24	CSC451	Special Topics in Artificial Intelligence	90 Hrs	3	12	8
25	CSC452	Natural Language Processing	CSC355	3	12	8

26	CSC453	Computer Vision	CSC355	3	12	8
27	CSC454	Business Intelligence	CSC352	3	12	8
28	CSC455	Smart Systems & IoT	CSC332 + CSC351	3	12	8
29	CSC456	Big Data Processing	CSC221 + CSC352	3	12	8

5.3 Breakdown of courses per level

Artificial Intelligence Track:

Breakdown	Level 5	Level 6	Level 7	Level 8	Total
No. of courses	5	15	12	13	45
% of courses	11.1 %	33.3%	26.7 %	28.9%	100%