

**Proposed Roadmap of ADP Artificial Intelligence  
(F2023 - S2025)**

**Semester 1**

Sr. No.	Course Code	Course Title	Credit Hours	Course Type	Pre-Req.
1	EN114	English Grammar and Composition -I	3	General Education Compulsory	
2	ISL112	Islamic Thought and Perspectives	3	General Education Compulsory	
3	MA107	Calculus and Analytical Geometry	3	General Education Compulsory	
4	IS135	Computer Applications (Theory & Lab)	3	General Education Compulsory	
2	POL121	Pakistan: Ideology, Constitution and Society	3	General Education Compulsory	
6	CC111	Programming Fundamentals (Theory & Lab)	4	Computing Core	
		<b>Semester Credit Hours</b>	<b>19</b>		

**Semester 2**

7	EN221	English Grammar and Composition II	3	General Education Compulsory	
8	CC141	Discrete Structures	3	General Education Compulsory	
9	MA210	Linear Algebra	3	Supporting Core	
10	CC371	Artificial Intelligence (Theory & Lab)	3	Computing Core	
11	CC112	Object Oriented Programming (Theory & Lab)	4	Computing Core	CC111
		<b>Semester Credit Hours</b>	<b>16</b>		

**Semester 3**

12	AI271	Programming for Artificial Intelligence (Theory & Lab)	3	Computing Core	
13	CC213	Data Structures (Theory & Lab)	4	Computing Core	CC112
14	CC121	Digital Logic Design (Theory & Lab)	3	Computing Core	
15	AI372	Machine Learning (Theory & Lab)	3	Computing Core	
16	IT291	Web Technologies (Theory & Lab)	3	Computing Elective	
17	CS397	Mobile Application Development (Theory & Lab)	3	Computing Elective	
		<b>Semester Credit Hours</b>	<b>19</b>		

**Semester 4**

18	MG224	Innovation and Entrepreneurship	3	General Education Compulsory	
19	AI391	Natural Language Processing	3	Computing Core	
20	AI473	Artificial Neural Networks & Deep Learning (Theory & Lab)	3	Computing Core	AI372
21	AI375	Computer Vision (Theory & Lab)	2	Computing Core	
22	CC323	Operating Systems (Theory & Lab)	4	Computing Elective	
23	CS400	Final Project	3	Computing Elective	
		<b>Semester Credit Hours</b>	<b>18</b>		
		<b>Total Program Credit Hours</b>	<b>72</b>		