

**Proposed Roadmap of ADP Software Engineering
(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	
5	CC241	Introduction to Software Engineering	3	Computing Core	
6	CC111	Programming Fundamentals (Theory & Lab)	4	Computing Core	
		Semester Credit Hours	19		

Semester 2

7	EN221	English Grammar and Composition II	3	General Education Compulsory	
8	POL121	Pakistan: Ideology, Constitution and Society	3	General Education Compulsory	
9	CC141	Discrete Structures	3	General Education Compulsory	
10	MA210	Linear Algebra	3	Supporting Core	
11	SE282	Software Requirement Engineering (Theory & Lab)	3	Computing Core	CC281
12	CC112	Object Oriented Programming (Theory & Lab)	4	Computing Core	CC111
		Semester Credit Hours	19		

Semester 3

13	CC121	Digital Logic Design (Theory & Lab)	3	Computing Core	
14	CC230	Database Systems (Theory & Lab)	4	Computing Core	
15	CC213	Data Structures (Theory & Lab)	4	Computing Core	CC112
16	CC251	Computer Networks (Theory & Lab)	3	Computing Core	
17	IT291	Web Technologies (Theory & Lab)	3	Computing Elective	
18	CC361	Information Security (Theory & Lab)	3	Computing Elective	
		Semester Credit Hours	20		

Semester 4

19	MG224	Innovation and Entrepreneurship	3	General Education Compulsory	
20	SE384	Software Construction and Development	3	Computing Core	CC281
21	SE383	Software Design and Architecture	3	Computing Core	CC281
22	CS397	Mobile Application Development (Theory & Lab)	3	Computing Elective	
23	CC323	Operating Systems (Theory & Lab)	4	Computing Elective	
24	CS400	Final Project	3	Computing Elective	
		Semester Credit Hours	19		
		Total Program Credit Hours	77		