Campus:	Main campus
Faculty:	Faculty of Electrical Engineering
Department:	Computer Science
Coordinator:	Aatif Hussain

Noe: Mapping can be done by matching the keywords or statement parts of each CLO (or course discription) with SDGs. Please see the additional sheets for more details. In following table, we only need Course-SDGs mapping for all the courses.

Courses and SDGs mapping

Sr #	Code	Course	SDG 1 No Poverty	SDG 2 Zero Hunger	SDG 3 Good Health and Well-being	SDG 4 Quality Education	SDG 5 Gender Equality	SDG 6 Clean Water and Sanitation	SDG 7 Affordable and Clean Energy	SDG 8 Decent Work and Economic Growth	SDG 9 Industry, Innovation and Infrastructure	SDG 10 Reduced Inequality	SDG 11 Sustainable Cities and Communities	SDG 12 Responsible Consumption and Production	SDG 13 Climate Action	SDG 14 Life Below Water	SDG 15 Life on Land	SDG 16 Peace & Justice Strong Institutions	SDG 17 Partnerships to achieve SDGs
1	CS-161	Programming Fundamentals				✓				✓	✓	✓	✓						
2	CS-102	Introduction to Computing				✓				✓	✓		✓						
3	HU-102	Functional English				✓	✓					✓	✓						
4	MA-123	Calculus				✓					✓		✓		✓				
5	PHY-111	Applied Physics							✓		✓				✓		✓		✓
6	ME-100L	Workshop Practice				✓				✓	✓	✓	✓						
7	CS-162	Object Oriented Programming				✓					✓	✓							
8	CMPE-222	Digital Logic Design				✓					✓		✓						
9	HU-240	Psychology			✓	✓	✓					✓						✓	
10	HU-111	Communication Skills (Lab)				✓	✓					✓							
11	MA-224	Multivariaite Calculus				✓					✓		✓						
12	MA-343	Applied Probability & Statistics								✓	✓	✓	✓						
13	QT-101	Translation of the Holy Quran				✓	✓											✓	✓
14	CS-261	Data Structures and Algorithms				✓				✓	✓								
15	HU-221	Technical writing and Presentation Skills				✓						✓	✓						
16	CS-271	Computer Organization and Assembly Language					✓				✓		✓						✓
17	MA-234	Linear Algebra				✓					✓		✓						✓
18	CS-270	Discrete Mathematics				✓					✓								✓
19	CS-262	Database Systems				✓					✓		✓					✓	
20	CS-263	Operating Systems				✓	✓				✓								
21	MA-228	Differential Equations				✓					✓				✓				✓
22	CS-272	Design and Analysis of Algorithms					✓			✓	✓				✓				
23	CS-273	Theory of Automata				✓					✓		✓						✓
24	QT-201	Translation of the Holy Quran				✓	✓					✓						✓	
25	CS-364	Information Security				✓				✓	✓							✓	
26	CS-371	Artificial Intelligence				✓				✓	✓		✓		✓			✓	
27	CS-301	Professional Practices in Software Development				✓				✓	✓								✓
29	CS-165	Software Engineering								✓	✓				✓				
30	CS-373	Computer Networks				✓					✓		✓		✓				

#	Code	Course	1	2	3	4	5	6	7	8	9	10	11	12	13	14
31	CS-490	Soft Computing (AI Elective)			✓					✓						✓
32	CS-489 Machine	Machine learning (AI Elective)			✓				✓	✓		✓				
33	CS-380	Graph Theory							✓	✓						✓
34	CS-372	Parallel and Distributed Computing			✓					✓		✓				
35	QT-301	Translation of the Holy Quran			✓	✓									✓	✓
36	CS-465	Final Year Project-I		✓	✓					✓		✓				
37	CS-471	Compiler Construction			✓				✓	✓		✓				
38	IS-101	Islamic & Pakistan Studies-I			✓						✓				✓	✓
39	CS-466	Final Year Project-II		✓	✓					✓		✓	✓			
40	MGT-414	Entrepreneurship & Business Management	✓			✓			✓	✓	✓					
41	IS-201	Islamic & Pakistan Studies-II			✓	✓					✓				✓	
42	HU-xxx	International Language			✓						✓				✓	
43	MGT-424	Leadership Strategies			✓	✓			✓		✓				✓	
44	QT-401	Translation of the Holy Quran			✓	✓					✓				✓	
45	CS-351	Computer Graphics			✓					✓				✓		✓
46	CS-353	Management Information Systems			✓				✓	✓		✓				
47	CS-381	Computer Architecture			✓					✓		✓		✓		
48	CS-382	Operations Research		✓			✓	✓	✓	✓						
49	CS-383	Simulation and Modelling			✓							✓				
50	CS-386	Database Administration			✓				✓	✓						
51	CS-387	Database Performance & Optimization			✓				✓	✓		✓				
52	CS-388	Database Backup & Recovery		✓	✓		✓	✓	✓	✓						
53	CS-389	Distributed Databases		✓	✓			✓	✓	✓		✓				
54	CS-390	System Programming			✓					✓	✓	✓		✓		
55	CS-391	Web Technologies			✓				✓	✓					✓	
56	CS-392	Game Development							✓	✓						
57	CS-393	Open Source Software Development			✓				✓	✓						
58	CS-394	Mobile Application Development		✓					✓	✓				✓	✓	
59	CS-396	object Oriented analysis and design			✓					✓	✓		✓			
60	CS-397	Design Patterns		✓	✓					✓						✓
61	CS-445	Programming Languages			✓		✓	✓	✓	✓						
62	CS-481	Real Time Systems					✓	✓		✓				✓	✓	
63	CS-487	Ethical Hacking								✓					✓	✓
64	CS-488	information retrievl			✓					✓	✓				✓	
65	CS-491	Wireless Networks			✓				✓	✓				✓		
66	CS-492	Internetworking with Unix TCP/IP			✓					✓	✓			✓		✓

#	Code	Course														
67	CS-493	Enterprise Application Development							✓	✓						✓
68	CS-494	E-Commerce							✓	✓		✓				
69	CS-495	Software Design & Architecture			✓				✓	✓			✓			
70	CS-496	Linux Kernel Implementation							✓			✓	✓			
71	CS-497	Intro to Program Analysis			✓				✓	✓		✓				
72	CS-498	Formal Methods			✓					✓		✓			✓	
73	CS-581	Graph Databases			✓				✓	✓						
74	CS-582	Web semantics			✓					✓		✓				
75	CS-583	Leading Software Teams			✓				✓	✓		✓			✓	
76	CS-584	Habits of Highly Effective Software Engineer			✓				✓	✓						
77	CS-585	Personal, Team and Executive Software Processes			✓				✓	✓		✓				
78	CS-586	Logical Paradigms of Computing			✓				✓	✓						
79	SWE-211	Software Requirements Engineering			✓				✓	✓						
80	SWE-221	Human Computer Interaction		✓	✓					✓		✓				
81	SWE-325	UX/UI Design			✓					✓						
82	SWE-331	Software Quality Engineering		✓	✓					✓		✓				
83	SWE-332	Software Measurement & Metrics			✓				✓	✓		✓				
84	CS-495	Software Project Management			✓				✓	✓					✓	
85	SWE-442	Software Re-Engineering			✓					✓		✓				
86	CS-360	Fundamentals of Cyber Security							✓	✓					✓	✓
87	CS-361	Network Security (Cyber Security Elective)							✓	✓					✓	
88	CS-362	Digital Forensics (Cyber Security Elective)							✓	✓					✓	
89	CS-363	Information Assurance (Cyber Security Elective)								✓					✓	✓
90	CS-365	Malware Analysis and Development (Cyber Security Elective)							✓	✓					✓	✓
91	CS-366	Penetration Testing (Cyber Security Elective)							✓	✓					✓	
92	CS-367	Secure Software Design and Development (Cyber Security Elective)							✓	✓	✓				✓	
93	CS-368	Vulnerability Assessment and Reverse Engineering (Cyber Security Elective)							✓	✓					✓	
94	CS-384	Introduction to Data Science (Data Science Elective)			✓			✓	✓	✓		✓				
95	CS-385	Internet of Things (Data Science Elective)			✓					✓		✓	✓			
96	CS-399	Statistics for Data Science (Data Science Elective)			✓				✓			✓				
97	CS-482	Big Data Analytics (Data Science Elective)		✓	✓			✓	✓			✓	✓			
98	CS-483	Cloud Computing (Data Science Elective)			✓			✓	✓	✓			✓			
99	CS-484	Data Warehousing and Business Intelligence (Data Science Elective)		✓	✓				✓				✓			
100	CS-496	Data Visualization (Data Science Elective)		✓	✓		✓	✓	✓							
101	CS-354	Natural Language Processing (AI Elective)			✓				✓	✓						
102	CS-355 Data Mining (2-1	Data Mining (Data Science Elective, AI Elective)		✓	✓				✓	✓			✓			

#	Code	Title																	
103	CS-356 Programming	Programming for AI (AI Elective)			✓			✓	✓										
104	CS-357	Knowledge Representation and Reasoning (AI Elective)			✓					✓									
105	CS-358	Philosophical Foundations of AI (AI Elective)			✓					✓	✓								
106	CS-450	Agent Based Modeling (AI Elective)			✓		✓	✓	✓										
107	CS-451 Introduction	Introduction to Bioinformatics (AI Elective)		✓					✓		✓		✓						
108	CS-452	Introduction to Deep Learning (AI Elective)			✓			✓	✓				✓						
109	CS-485 Computer	Computer Vision and Image Processing (AI Elective)			✓			✓			✓		✓						