

Bachelor of Science in Economics with Data Science

Categories	Courses	Credit hours
General Education Cluster (GEC)	15	35
Interdisciplinary Courses (ID)	04	12
Internship	01	03
Capstone / Research Project	01	03
Majors (Economics + Supporting courses: Data Science)	28	84
Total	49	137

Semester-wise Plan

	Subjects and Semester Details	Category	Credit Hours
	Fall Semester (Year-1)		
1	Eco xxxx- Computer and Web Skills	GEC 1	3
2	Eco xxxx -English for General Purposes	GEC 2	3
3	Eco xxxx -Mathematics and Statistics	GEC 3	3
4	Eco xxxx -Principles of Microeconomics	M1	3
5	Eco xxxx- Ideology and Constitution of Pakistan (2,0)	GEC 4	2
6	Eco xxxx -Islamic Studies (2,0) OR Eco xxxx - Humanities* (For non-Muslim students)	GEC 5	2
7	Eco xxxx -Understanding of Holy Quran-I (1,0)	GEC 6	1
	Total		17
	Spring Semester (Year-1)		
8	Eco xxxx -Principles of Macroeconomics	M2	3
9	Eco xxxx- Introduction to Community Development and Philanthropy	GEC 7	2
10	Eco xxxx- Interdisciplinary Course-I	ID 1	3
11	Eco xxxx -Calculus for Economists	M3	3
12	Eco xxxx -English for Academic Purposes	GEC 8	3
13	Eco xxxx- Philosophy	GEC 9	2
	Total		16
	Second Year		
	Fall Semester (Year-2)		
14	Eco xxxx - Ecology	GEC 10	3
15	Eco xxxx- Intermediate Microeconomics	M4	3
16	Eco xxxx- Statistical Inference	GEC 11	3
17	Eco xxxx- Introduction to Sociology	ID 2	3
18	Eco xxxx - Fundamentals of Programming	M5	(2,1)
19	Eco xxxx- Pakistan Studies (2,0)	GEC 12	2
20	Eco xxxx -Understanding of Holy Quran-II (1,0)	GEC 13	1
	Total		18

	Spring Semester (Year-2)		
21	Eco xxxx -Entrepreneurship	GEC 14	2
22	Eco xxxx- Intermediate Macroeconomics	M6	3
23	Eco xxxx - Political Economy	GEC 15	3
24	Eco xxxx -Applied Statistics and Probability for Economists	M7	3
25	Eco xxxx- Data Science: Ethics and Policy	M8	3
26	Eco xxxx -Data Structure & Data Algorithms	M9	3 (2,1)
	Total		17
	Third Year		
	Fall Semester (Year-3)		
27	Eco xxxx - Database Systems	M10	2,1
28	Eco xxxx -Econometrics-I	M11	3
29	Eco xxxx -International Economics	M12	3
30	Eco xxxx- Fiscal and Monetary Economics	M13	3
31	Eco xxxx- Development Economics	M14	3
32	Eco xxxx- Interdisciplinary Course-II	ID 3	3
	Total		18
	Spring Semester (Year-3)		
33	Eco xxxx -Research Methods		3
34	Eco xxxx -Econometrics-II	M15	3
35	Eco xxxx- Environmental Economics and Policy	M16	3
36	Eco xxxx - Artificial Intelligence in Economics	M17	3*
37	Eco xxxx - Data Analytics and Visualization	M18	3*
38	Eco xxxx – Financial Markets and Institutions	M19	3
	Total		18
	Summer Semester		
39	Eco xxxx- Internship		3
	Total		
	Fourth Year		
	Fall Semester (Year-4)		
40	Eco xxxx Machine Learning and Predictive Analytics-I	M20	3*
41	Eco xxxx Time Series Analysis and Forecasting	M21	3
42	Eco xxxx Elective-I	M22	3
43	Eco xxxx Elective-II	M23	3
44	Eco xxxx Elective-III	M24	3
	Total		15

	Spring Semester (Year-4)		
45	Eco xxxx Research Project- / Eco xxxx Capstone Project-		3
46	Eco xxxx Machine Learning and Predictive Analytics-II	M25	3*
47	Eco xxxx Elective-IV	M26	3
48	Eco xxxx Elective-V	M27	3
49	Eco xxxx Elective-VI	M28	3
	Total		15
	Total Credit Hours of Program		137

***Lab Based courses.**

Interdisciplinary Course:

1. ECO xxxx Foreign Language
2. ECO xxxx Introduction to Economics
3. ECO xxxx Introduction to Development Studies
4. ECO xxxx Introduction to International Relations
5. ECO xxxx Comparative Religion
6. ECO xxxx Introduction to Indus Civilization
7. ECO xxxx Business Ethics
8. ECO xxxx Introduction to Psychology
9. ECO xxxx Enlightenment
10. ECO xxxx Gender Studies
11. ECO xxxx Public Policy
12. ECO xxxx Climate Change and Adaptation Strategies
13. ECO xxxx Population and Development

Electives:

1. Eco xxxx GIS for Economics
2. Eco xxxx Agriculture Economics
3. Eco xxxx Mathematical Economics
4. Eco xxxx Industrial Organization and Game Theory
5. Eco xxxx Big Data Analytics for Economics
6. Eco xxxx General Equilibrium Analysis
7. Eco xxxx Energy Economics and Policy Applications
8. Eco xxxx Financial Economics
9. Eco xxxx Publics Finance
10. Eco xxxx Pakistan Economy
11. Eco xxxx Behavioural Economics
12. Eco xxxx Labour Economics
13. Eco xxxx Economic Growth
14. Eco xxxx Experimental Development Economics
15. Eco xxxx Islamic Economics