



4

**SCHOOL OF SCIENCE AND
HUMANITIES**



DEPARTMENT OF ECONOMICS

B.Sc. ECONOMICS (DATA SCIENCE)

CURRICULUM

REGULATION 2025

Abbreviations Used for Course Categorization in this document are:

- Major Core (MC)
- Minor Stream (MS)
- Multidisciplinary (MD)
- Ability Enhancement Courses (AEC)
- Skill Enhancement Courses (SEC)
- Value Added Courses (VAC)
- Summer Internship (SI)

SEMESTER I

Sl. No.	Course Title	Course Category	Contact Periods	L	T	P	C
1	Microeconomics I	MC	4	3	1	0	4
2	Macroeconomics I	MC	4	3	1	0	4
3	Mathematics	MD	4	3	1	0	4
4	Statistics I	MD	4	3	1	0	4
5	Communication Skills in English	AEC	3	2	1	0	3
6	MS Excel	SEC	4	0	0	4	2
7	Extra Academic Activity 1 [#]	VAC	2	0	0	2	1
Total			25	14	5	6	22

At the induction programme, students will have the option to choose from three youth programmes: The National Service Scheme (NSS), the Youth Red Cross Society (YRCS), and the National Sports Organisation (NSO).

SEMESTER II

Sl. No.	Course Title	Course Category	Contact Periods	L	T	P	C
1	Microeconomics II	MC	4	3	1	0	4
2	Macroeconomics II	MC	4	3	1	0	4
3	Mathematical Economics	MC	3	2	1	0	3
4	Statistics II	MD	3	2	1	0	3
5	Environmental Management and Sustainability	VAC	3	3	0	0	3
6	Programming in Python	MC	4	2	0	2	3
7	SQL Programming	SEC	3	1	0	2	2
8	Extra Academic Activity 2 [#]	VAC	2	0	0	2	1
Total			26	16	4	6	23

SEMESTER III

Sl. No	Course Title	Course Category	Contact Periods	L	T	P	C
1	Basics of Finance	MC	4	3	1	0	4
2	Basic Econometrics	MC	4	3	1	0	4
3	Introduction to Data Science	MC	4	3	0	2	4
4	Public Finance and Policy / Data Processing: Wrangling and Visualisation#/ Money, Banking and Finance*	MS	3	3/2	0	0/2	3
5	Game Theory	MC	4	3	1	0	4
6	R Programming	SEC	3	1	0	2	2
7	Econometrics Lab	SEC	2	0	0	2	1
Total			24	16/15	3	6/8	22

*Mandatory Course for the chosen Minor Streams. Minor streams are classified under three categories and a student is required to enrol in any one of the three Minor Streams (Please see pages 5-7 for the details).

Credit composition for Data Processing course is: 2-0-2-3.

SEMESTER IV

Sl. No	Course Title	Course Category	Contact Periods	L	T	P	C
1	Development Economics	MC	4	3	1	0	4
2	Introduction to Machine Learning Techniques	MC	5	3	0	2	4
3	Environmental Economics / Deep Learning#/ Financial Economics*	MS	3	3/2	0	0/2	3
4	Behavioural Economics	MC	4	3	1	0	4
5	Minor Elective Course 1	MS	3	3	0	0	3
6	Minor Elective Course 2	MS	3	3	0	0	3
7	Academic Writing	SEC	2	0	2	0	2
Total			24	18/17	4	2/4	23

*Mandatory Course for the chosen Minor Stream.

Credit composition for Deep Learning course is: 2-0-2-3.

SEMESTER V

Sl. No	Course Title	Course Category	Contact Periods	L	T	P	C
1	Indian Economy: An Analytical Perspective	MC	4	3	1	0	4
2	History of Economic Thought	MC	2	2	0	0	2
3	International Economics	MC	4	3	1	0	4
4	Minor Elective Course 3	MS	3	3	0	0	3
5	Minor Elective Course 4	MS	3	3	0	0	3
6	Financial Literacy	AEC	4	0	0	4	2
7	Internship/Mini Project	SI	0	0	0	4	2
Total			20	14	2	8	20

Note: Internship/Mini Project is completed during the vacation period during the end of semester IV and beginning of the Semester V.

SEMESTER VI

Sl. No	Course Title	Course Category	Contact Periods	L	T	P	C
1	Minor Elective Course 5	MS	3	3	0	0	3
2	Minor Elective Course 6	MS	3	3	0	0	3
3	Corporate Governance and Business Ethics	AEC	3	3	0	0	3
4	Essentials of Entrepreneurship	VAC	1	1	0	0	1
5	Major Project	SI	8	0	0	8	4
Total			18	10	0	8	14

COURSE SUMMARY

The listed courses are broadly classified as per the recommendations from the UGC.

S. No.	Broad Category of Course	Minimum Credit Requirement
		3-year UG
1	Major Core (MC)	60
2	Minor Stream (MS)	24
3	Multidisciplinary (MD)	09
4	Ability Enhancement Courses (AEC)	08
5	Skill Enhancement Courses (SEC)	09
6	Value Added Courses (VAC)	06 - 08
7	Summer Internship (SI)	02 - 04
	Total	120

The semester wise credit breakup of the Curriculum based on the above credit breakup proposed by the UGC is as follows:

Semester	MC	MS	MD	AEC	SEC	VAC	SI	TOTAL
1	8	-	8	3	2	1	-	22
2	14	-	3	-	2	4	-	23
3	16	3	-	-	3	-	-	22
4	12	9	-	-	2	-	-	23
5	10	6	-	2	-	-	2	20
6	-	6	-	3	-	1	4	14
Total	60	24	11	8	9	6	6	124

MINOR STREAMS

The Department of Economics offers its students the following list of Minor Streams:

Minor Stream 1: Sustainable Development and Public Policy

Minor Stream 2: Advanced Data Science

Minor Stream 3: Banking and Finance

Each Minor Stream has eight courses (2 mandatory and 6 electives) worth 24 credits. The student must enrol in any one of the above three Minor Streams.

Minor Streams

Minor Stream 1 - Sustainable Development and Public Policy	Minor 2: Advanced Data Science	Minor 3: Banking and Finance
Public Finance and Policy*	Data Processing: Wrangling and Visualisation*	Money, Banking and Finance *
Environmental Economics*	Deep Learning*	Financial Economics*
Elective Course 1	Elective Course 1	Elective Course 1
Elective Course 2	Elective Course 2	Elective Course 2
Elective Course 3	Elective Course 3	Elective Course 3
Elective Course 4	Elective Course 4	Elective Course 4
Elective Course 5	Elective Course 5	Elective Course 5
Elective Course 6	Elective Course 6	Elective Course 6

*Mandatory Course for the Minor Streams

The following is the tentative list of courses (3 credit courses) that may be offered under the **Minor Stream 1: Sustainable Development and Public Policy**

1. Global Political Economy
2. Law and Economics
3. Labour Economics
4. Advanced Econometrics
5. Industrial Economics
6. Impact Evaluation
7. Gender Economics
8. Health Economics
9. Urban Economics
10. Agricultural Economics
11. Energy Economics
12. Regulatory Economics
13. Data: Sources, Issue and Socio-Economic Analysis

The following is the tentative list of courses (3 credit courses) that may be offered under the **Minor Stream 2: Advanced Data Science**

1. Big Data Analytics
2. Data Mining
3. Artificial Intelligence
4. Large Language Model
5. Social Media Mining
6. Natural Language Processing
7. Applications of Data Science in Economics
8. Advanced Econometrics
9. Data: Sources, Issue and Socio-Economic Analysis

The following is the tentative list of courses (3 credit courses) that may be offered under the *Minor Stream 3: Banking and Finance*

1. Financial Econometrics
2. Financial Markets
3. Auditing
4. Investment Management
5. Financial Modelling
6. Principles of Insurance
7. Digital Finance
8. Business Valuation
9. Derivatives and Risk Management

MICROSPECIALIZATION

The University also provides opportunity to UG students to opt for Micro-Specializations. A student would be required to complete 10-12 credits from courses offered by other UG programmes to earn a Micro-Specialization.

Eligibility for Micro-Specialization registration

To register for a Micro-Specialization, the student must have completed all curricular requirements up to the previous semester and have a CGPA ≥ 8.0 . The student must maintain a CGPA ≥ 8.0 without any backlog in the subsequent semesters to keep the Micro-Specialization registration active. The Micro-Specialization must not overlap with the courses which are part of the degree program opted by the student.