



University of Rajasthan Jaipur

SYLLABUS

(Three/ Four Year Under Graduate Programme in Science)

Economics

I, II, III&IV Semester

2025-26

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... विरलविश्वविद्यालय, जयपुर

As per NEP-2020

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University of Rajasthan

Department of Economics

Programme Name: UG802/803 - Three/Four Year B.Sc.

The Programme is divided into four parts and each part will consist of two semesters.

Part	Year	Odd Semester	Even Semester
Part-I	First Year	Semester-I	Semester-II
Part-II	Second Year	Semester-III	Semester-IV
Part-III	Third Year	Semester-V	Semester-VI
Part-IV	Fourth Year	Semester-VII	Semester-VIII

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Name of University: University of Rajasthan, Jaipur
 Name of Faculty: UG0802/803 - **B.Sc.**
 Name of Discipline: Economics
 Programme Prerequisites: Passed 12th Class

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Programme Outcomes (POs):

1. Students will be introduced to contemporary economic issues and challenges at both national and global levels, promoting a practical understanding of the discipline's relevance. Graduates will understand the basic economic issues and problems of the real world, enabling them to analyze and address these challenges effectively.
2. Graduates will be able to take informed actions by identifying the assumptions that frame our thinking and actions. They will assess the accuracy and validity of these assumptions and view ideas and decisions from intellectual, organizational, and personal perspectives.
3. The programme provides a firm basis for advanced thinking in the economics discipline. Graduates will comprehend the behavior and interactions of households, firms, and government institutions.
4. Students will learn the mathematical and statistical techniques essential for understanding economics. They will be trained to collect primary data and understand appropriate policy responses to economic problems.
5. Students will gain insights into the dynamics of economic development, including the roles of financial inclusion, sustainable development initiatives, and government policies.
6. The programme equips students with the flexibility to prepare for careers in academia, law, management, journalism, government, and many other fields, providing a broad range of opportunities.

Scheme of Examination for the Session 2024-2025

Scheme of the Examination for Practical subjects:

1 Credit = 25 marks for examination/evaluation

Continuous assessment, in which sessional work and the terminal examination will contribute to the final grade. Each course in Semester Grade Point Average (SGPA) has two components: Continuous assessment (20% Weightage) and (End of Semester Examination) EoSE (80% weightage)

1. Sessional work will consist of class tests, mid-semester examination(s), homework assignments, etc., as determined by the faculty in charge of the courses of study.
2. Each Paper of EoSE shall carry 80% of the total marks of the course/subject. The EoSE will be of 3 hours duration.

Part-A of the paper shall have multiple questions of equal marks. This first question shall be based on knowledge, understanding and applications of the topics/texts covered in the syllabus.

Part-B of the paper shall consist of 4 questions with an internal choice of each. The four questions will be set with one from each of the units with internal choice. Third to fourth questions shall be based on applications of the topics/texts covered in the syllabus (60% Weightage) and shall involve solving Problems (40% Weightage) if applicable.

3. 75% Attendance is mandatory for appearing in EoSE.

4. To appear in the EoSE examination of a course/subject student must appear in the midsemester examination and obtain at least a "C" grade in the course/subject.

5. Credit points in a Course/Subject will be assigned only if, the student obtains at least a C grade in midterm and EoSE examination of a Course/Subject.

Scheme of the Examination for Non-Practical subjects:

1 Credit = 25 marks for examination/evaluation

Continuous assessment, in which sessional work and the terminal examination will contribute to the final grade. Each course in Semester Grade Point Average (SGPA) has two components: Continuous assessment (20% Weightage) and (End of Semester Examination) EoSE (80% weightage)

6. Sessional work will consist of class tests, mid-semester examination(s), homework assignments, etc., as determined by the faculty in charge of the courses of study.

7. Each Paper of EoSE shall carry 80% of the total marks of the course/subject. The EoSE will be of 3 hours duration.

Part-A of the paper shall have multiple questions of equal marks. This first question shall be based on knowledge, understanding and applications of the topics/texts covered in the syllabus.

Part-B of the paper shall consist of 2 questions with an internal choice of each. The questions will be set with one from each of the units with internal choice. Third to fourth questions shall be based on applications of the topics/texts covered in the syllabus (60% Weightage) and shall involve solving Problems (40% Weightage) if applicable.

Part-C of the paper shall consist of 4 questions with an internal choice of each. The four questions will be set with one from each of the units with internal choice. Third to fourth questions shall be based on applications of the topics/texts covered in the syllabus (60% Weightage) and shall involve solving Problems (40% Weightage) if applicable.

8. 75% Attendance is mandatory for appearing in EoSE.

9. To appear in the EoSE examination of a course/subject student must appear in the midsemester examination and obtain at least a "C" grade in the course/subject.

10. Credit points in a Course/Subject will be assigned only if, the student obtains at least a C grade in midterm and EoSE examination of a Course/Subject.

Contact Hours 15 Weeks per Semester

L — Lecture:	(1 Credit = 1 Hour/Week)
T — Tutorial:	(1 Credit = 1 Hour/Week)
S — Seminar:	(1 Credit = 2 Hours/Week)
P — Practical/Practicum:	(1 Credit = 2 Hours/Week)
F — Field Practice/Projects:	(1 Credit = 2 Hours/Week)
SA — Studio Activities:	(1 Credit = 2 Hours/Week)
I — Internship:	(1 Credit = 2 Hours/Week)
C — Community Engagement and Service:	(1 Credit = 2 Hours/Week)

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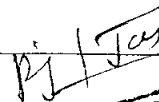
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Exit and Entrance Policy

1. Students who opt to exit after completion of the first year and have secured 48 credits will be awarded a UG Certificate if, in addition, they complete one internship of 4 credits during the summer vacation of the first year. These students are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.
2. Students who opt to exit after completion of the second year and have secured 96 credits will be awarded the UG diploma if, in addition, they complete one internship of 4 credits during the summer vacation of the second year. These students are allowed to re-enter within a period of three years and complete the degree programme within the maximum period of seven years.
3. Students who wish to undergo a 3-year UG programme will be awarded UG Degree in the Major discipline after successful completion of three years, securing 150 credits and satisfying the minimum credit requirement.
4. A four-year UG Honours degree in the major discipline will be awarded to those who complete a four-year degree programme with 200 credits and have satisfied the minimum credit requirements.
5. Students who secure 75% marks and above in the first six semesters and wish to undertake research at the undergraduate level can choose a research stream in the fourth year. They should do a research project or dissertation under the guidance of a faculty member of the University/College. The research project/dissertation will be in the major discipline. The students, who secure 200 credits, including 12 credits from a research project/dissertation, are awarded UG Degree (Honours with Research).

Letter Grades and Grade Points

Letter Grade	Grade Point	Marks Range (%)
O (outstanding)	10	91-100
A+ (Excellent)	9	81-90
A (Very good)	8	71-80
B+ (Good)	7	61-70
B (Above average)	6	51-60
C (Average)	5	40 - 50
P (Pass)	4	
F (Fail)	0	
Ab (Absent)	0	


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When students take audit courses, they may be given a pass (P) or fail (F) grade without any credit.

SEMESTER WISE PAPER TITLES WITH DETAILS

Name of Programme: UG0802/803: B.Sc.								
Subject/ Discipline: Economics								
S No	Level	Semester	Type	Title	CREDITS			
					L	T	P	Total
1	5	I	MJR/MIN	UG 802/803-ECO-51T-101: Principles of Micro Economics	6	0	0	6
2	5	II	MJR/MIN	UG 802/803-ECO-52T-102: Fundamental Methods of Mathematical Economics	6	0	0	6
3	6	III	MJR/MIN	UG 802/803- ECO-63T-201: Principles of Macro Economics	6	0	0	6
4	6	IV	MJR/MIN	UG802/803-ECO-64T-202: Statistics	6	0	0	6

Syllabus

UG 802/803- -B.Sc.

Semester-I: Economics

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks Midterm (MT)+ End of Sem (ES)	Minimum Marks Midterm (MT)+ End of Sem (ES)
Theory	UG 802/803- ECO- 51T-101: Principles of Microeconomics	1 Hrs-MT 3Hrs- ES	30 Marks- MT 120 Marks- ES	12 Marks-MT 48 Marks- ES

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Semester	V
Code of the Course	UG 802/803- ECO-51T-101
Title of the Course/Paper	Principles of Micro Economics
NHEQF Level	5
Credit	6
Level of the Course	Introductory
Type of the Course	Major/Minor
Delivery Type of the Course	Lectures
Prerequisites	Nil
Objective of the Course	This course provides an introduction to microeconomic principles and their applications. The primary objective is to equip students with an understanding of the fundamental concepts, theories, and methods used in microeconomic analysis.

Course Outcome

CO1: Students will develop a thorough understanding of economics, encompassing the economic issues of scarcity and choice, the concept of opportunity cost, and the essential questions of what, how, and for whom to produce, while differentiating between positive and normative analysis.

CO2: Students will be able to analyze the laws of demand and supply, market equilibrium, and elasticity, as well as concepts such as consumer surplus and producer surplus, to understand market behavior and outcomes.

CO3: Students will gain understanding of budget constraints, utility, and indifference curves, alongside analyzing production processes and cost structures in both the short run and long run.

CO 4: Students will learn about the features of various market structures, including perfect competition, monopoly, monopolistic competition, and oligopoly.

Syllabus

UG 802/803- -ECO-51T-101: Principles of Micro Economics

UNIT-I

Subject Matter of Economics: Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the concept of opportunity cost; three problems of economic system: the question of what to produce, how to produce and how to distribute output; science of economics; positive versus normative analysis.

Demand: Law of demand; determinants of demand; shifts of demand versus movements along a demand curve; market demand.

Supply: Law of supply; determinants of supply; shifts of supply versus movements along a supply curve; market supply; market equilibrium, elasticity and its application; consumer surplus; producer surplus.

(25 Lecture)

UNIT-II

The Households: The consumption decision- budget constraint, concept of utility, diminishing marginal utility, Diamond-water paradox, consumption and income/price changes. Demand for all other goods and price changes: consumer choice, indifference curves, properties of indifference curves derivation of demand curve from indifference curve and budget constraint; consumer equilibrium, income and substitution effects; labour supply and savings decision- choice between leisure and consumption.

(20 Lecture)

UNIT III

Production: Behaviour of profit maximizing firms, production process, production functions, law of variable proportions, isoquant and iso cost lines.

Costs: concepts of costs, Costs in the short run, costs in the long run, relationship between AC and MC, revenue and profit maximization, minimizing losses, short run industry supply curve, economies and diseconomies of scale.

(25 Lecture)

UNIT IV

Perfect Competition: Assumptions, features, supply curve of a competitive firm, short run and long run equilibrium of a firm/industry. Monopoly: Meaning, source, types, assumptions, features, price and output determination in the short run and long run.

Monopolistic Competition: Features/ characteristics, short run and long run equilibrium of a firm, role of advertising. Oligopoly: Assumptions, features and characteristics.

(20 Lecture)

Suggested Books:

1. Ahuja H.L (2017). Advanced Economic Theory, S. Chand and Company, New Delhi.
2. Bernheim, B., Whinston, M. (2009). Microeconomics. TataMcGraw-Hill.
3. Dominick Salvatore (2002) Theory and Problems of Microeconomic Theory, Schaum's Outline Series, McGraw-Hill Book Company, Singapore.
4. H.R (2010). Intermediate Microeconomics: A Modern Approach, W.W.North and Company, 8th edition.
5. Koutsoyiannis A, (2008). Modern Microeconomics, Macmillan. London.
6. Mankiw, N. (2007). Economics: Principles and applications, 4th ed. Cengage Learning, 2007.
7. Pindyck Robert S., and Daniel L. Rubinfeld, (2012) Microeconomics. Pearson Prentice Hall, New Jersey.

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Syllabus

UG 802/803- -B.Sc.

Semester-II: Economics

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks Midterm (MT)+ End of Sem (ES)	Minimum Marks Midterm (MT)+ End of Sem (ES)
Theory	UG 802/803- - ECO-52T-102: Fundamental Methods of Mathematical Economics	1 Hrs-MT 3Hrs- ES	30 Marks- MT 120 Marks- ES	12 Marks-MT 48 Marks- ES

Semester	II
Code of the Course	UG0802/803- ECO-52T-102
Title of the Course/Paper	Fundamental Methods of Mathematical Economics
NHEQF Level	5
Credit	6
Level of the Course	Introductory
Type of the Course	Major/Minor
Delivery Type of the Course	Lectures
Objective of the Course	Equip students with essential mathematical tools and techniques to analyze and solve economic problems, train them to perform quantitative analysis of economic data and interpret results accurately, and illustrate the application of mathematics in both microeconomics and macroeconomics, thereby enhancing their understanding of these fields. It aims to equip students with optimization techniques and their applications in economic theory.

Course Outcomes

CO1: Students will gain a comprehensive understanding of matrices and vectors, including matrix operations such as addition and multiplication, and their basic principles like commutative, associative, and distributive laws.

CO1: Students will understand the first and second order conditions for finding maxima, minima, and saddle points in unconstrained optimization problems involving two choice variables, and will learn to assess the concavity and convexity of functions.

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CO3: Students will grasp the concept of integration, both indefinite and definite integrals, and will apply these concepts in economic contexts to calculate consumer surplus and producer surplus.

CO4: Students will apply difference equations to economic models such as growth models, the Cobweb model, and the lagged Keynesian macroeconomic model.

Syllabus

UG0802/803- ECO-521-102: Fundamental Methods of Mathematical Economics

Unit-I

Matrix and Determinants: Matrices and Vectors, Matrix Operations; Basic principles of Matrix addition and Multiplication, commutative, associative and distributive laws. Type of Matrices and their properties, Determinants- second-order and third order determinant, relation between Minors and Cofactors; Basic properties of Determinants; the Transpose of a Matrix, the Cofactor Matrix, Adjoint of a Matrix, Inverse of a Matrix. Solution of linear simultaneous equations by Matrix Inversion method and Cramer's rule.

(20 Lectures)

Unit-II

Unconstrained Optimization-The case of two choice variables: First order and second order conditions for a maxima, minima and saddle point solutions; conditions for concavity and convexity of a function; relevant applications.

Constrained Optimization (Lagrange Multiplier Method) - case of two choice variables: First order and second order conditions.

(25 Lectures)

Unit-III

Integral Calculus: Concept of Integration; Indefinite and Definite Integrals and its application in Economics -Consumer surplus and Producer surplus.

(20 Lectures)

Unit-IV

Difference Equations: Solution of First and Second order homogeneous and non-homogeneous difference equations; Applications on Growth Model, A Cobweb Model, the lagged Keynesian macroeconomic model.

(25 Lectures)

Books Recommended:

1. Alpha C. Chiang and Kevin Wainwright, Fundamental Methods of Mathematical Economics, Fourth Edition, Mc Graw Hill International Edition, 2005.
2. Geoff, Renshaw, Mathematics for Economics, Oxford University Press, 2011.

3. Jaques, I, Mathematics for Economics and Business, Prentice Hall, 2010
4. Knut Sydsaeter and Peter J. Hammond, Mathematics for Economic Analysis, Low Price Edition, Pearson Education, New Delhi, 2007.
5. Mehta B.C. and G.M.K. Madnani, Mathematics for Economics, Sultan chand & Sons, New Delhi, 2008.
6. Teresa Bradley and Paul Patton, Essential Mathematics for Economics and Business, Wiley, 2000.

Syllabus

UG 802/803- -B.Sc.

Semester-III: Economics

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks Midterm (MT)+ End of Sem (ES)	Minimum Marks Midterm (MT)+ End of Sem (ES)
Theory	UG802/803- - ECO-63T-201: Principles of Macro Economics	1 Hrs-MT 3Hrs- ES	30 Marks- MT 120 Marks- ES	12 Marks-MT 48 Marks- ES

Semester	III
Code of the Course	UG 802/803- - ECO-63T-201
Title of the Course/Paper	Principles of Macro Economics
NHEQF Level	6
Credit	6
Level of the Course	Introductory
Type of the Course	Major/Minor
Delivery Type of the Course	Lectures
Prerequisites	Nil
Objective of the Course	This course aims to equip students with a thorough understanding of the principles, theories, and applications of macroeconomic concepts. The objective of this course is to enhance students' understanding to the methods and challenges of measuring key macroeconomic indicators such as GDP, unemployment rates, inflation rates, and interest rates.

Course Outcome:

CO1: Unit introduces the meaning & methodology of macroeconomics; schools of macroeconomic thought and macroeconomic variables.

CO2: National income is a crucial macroeconomic aggregate that reflects the overall economic performance of a country. Unit plays a pivotal role in helping students grasp the concept of national income.

CO3: Money and price are the instrumental variables in facilitating the transaction and in the allocation of resources in the economy. Current unit presents a detailed account of money, its functions and its relation with general price level.

CO4: Unit portrays the interaction of real sector variables including income, employment, consumption, saving and investment.

Syllabus

UG 802/803-- ECO-63T-201: Principles of Macro Economics

Unit-I

Macroeconomics: Meaning, Subject matter, Origin, and Importance. Basic tenets of Classical, Keynesian, New-Classical and New-Keynesian economics, Macro Economic Variables: Stock vs flow, Ex-ante vs Ex-post, Endogenous vs Exogenous, Ratio Variables, Autonomous vs Induced, Dependent vs Independent. Interdependence between Micro and Macro Economics. Fallacy of Composition. A brief introduction of Nobel laureate Macro Economists.
(25 Lectures)

Unit-II

Circular Flow of Income in a Two, Three & Four Sector Economy. Leakages & Injections. National Income: Basic Concepts, Measurement Methods, Nominal & Real income. CPI and GDP Deflator. Concept of Net Economic Welfare (NEW).
(20 Lectures)

Unit-III

Money Functions. Quantity Theory of Money: Transaction & Cash Balance Approach. Keynesian Theory of Money. Milton Friedman Restatement of QTM. Inflation: Definition, Concept, Types, Causes, Effects & Remedial Measures. The Social Cost of Inflation. Phillips Curve.
(20 Lectures)

Unit-IV

Income & Employment Determination: Simple Classical & Keynesian Model. Consumption Function & its Determinants. The Saving Function & Marginal Efficiency of Capital. Investment Function and its Determinants & Marginal efficiency of Investment. Concept of Multiplier and Accelerator. Business Cycle: Definition & Phases.
(25 Lectures)

Recommended Books:

1. Richard T. Froyen. Macro Economics: Theories and Policies (X Edition), Adapted by Pearson Education.
2. G S Gupta. Macro Economics: Theory & Application, Tata McGraw Hill, New Delhi.
3. Edward Shapiro

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4. Dornbusch, Fischer and Startz. Macro Economics, XIIth Edition, Tata McGraw Hill, New Delhi.
 5. N. Gregory Mankiw. Macro Economics, Worth Publishers.
 6. Schaum's Series: Macro Economics, Tata McGraw Hill, New Delhi.
 7. H.L. Ahuja (Hindi & English Edition) Macro Economics: Theory & Policy, S.Chand & Co. Ltd. New Delhi.

Syllabus

UG 802/803- -B.Sc. Semester-IV: Economics

Type	Paper Code and Nomenclature	Duration of Examination	Maximum Marks Midterm (MT)+ End of Sem (ES)	Minimum Marks Midterm (MT)+ End of Sem (ES)
Theory	UG 802/803- -ECO-64T-202 Statistics	1 Hrs-MT 3Hrs- ES	30 Marks- MT 120 Marks- ES	12 Marks-MT 48 Marks- ES

Semester	IV
Code of the Course	UG 802/803- -ECO-64T-202
Title of the Course/Paper	Statistics
NHEQF Level	6
Credit	6
Level of the Course	Introductory
Type of the Course	Major/Minor
Delivery Type of the Course	Lectures
Objective of the Course	This course aims to equip students with both theoretical knowledge and practical skills necessary to analyze and interpret data effectively. The objective of this course is to impart basic concepts of statistics essential for studying socio-economic problems with a particular focus on data collection techniques, classification, tabulation and analysis of data.

Course Outcome

CO1: Students will apply foundational statistical methods to analyze economic data, including techniques for data collection, tabulation, and graphical representation, thereby gaining practical skills in handling real-world datasets.

CO2: Students will learn about the relationships between variables using correlation techniques like Pearson's and Spearman's coefficients, and analyze trends in economic data through regression analysis and time series analysis, enhancing their ability to interpret statistical findings.

CO3: To Apply statistical techniques to analyze data from various fields such as business, economics, social sciences, and natural sciences.

CO4: Students will assess statistical significance through hypothesis testing, understanding concepts such as degrees of freedom, levels of significance, and types of errors, enabling them to make informed decisions based on rigorous statistical inference in economic research.

Syllabus

UG 802/803- ECO-64T-202: Statistics

Unit-I

Statistics- Nature and Uses. Methods of data collection and tabulation. Diagrammatic and Graphical representation of data. Measures of Central Tendency: Arithmetic Mean, Geometric Mean, Harmonic Mean, Mode, Median and Partition Values. **(25 Lectures)**

Unit-II

Concept and Measures of Dispersion, Skewness. Simple Correlation: Karl Pearson's Coefficient of Correlation and Spearman's Rank Correlation. Regression analysis, fitting of linear regression lines using Least Square Method. **(25 Lectures)**

Unit-III

Analysis of Time Series, Components, Determination of trend by straight line trend equation. Index Numbers: Laspeyres's, Paasche's, Fisher's Ideal Index Number, Splicing, Deflating. Interpolation (Binomial Expansion and Newton's Method). Association of Attributes. **(20 Lectures)**

Unit-IV

Elementary Probability Theory, Testing of Hypothesis: Concepts of Degree of Freedom, Level of Significance, Critical Region, Type I and II error, Standard error, t test. **(20 Lectures)**

Books recommended:

1. S.P. Gupta. Statistical Methods, Sultan Chand Sons, New Delhi.
2. M.R. Spiegel. Theory and Problems of Statistics, McGraw Hill Books, London.
3. S.C. Gupta and V.K. Kapoor. Fundamentals of Applied Statistics, S Chand and sons, New Delhi.
4. Salvator, D. Mathematics and Statistics, Schaum's Series, Tata McGraw Hill.
5. G. S. Monga. Mathematics and statistics for Economics, Vikas Publishing House, New Delhi.
6. K. N. Nagar. Fundamentals of Statistics, Meenakshi Prakashan, Meerut.