SISTER NIVEDITA UNIVERSITY

Undergraduate course structure for Economics As

per NEP 2020 regulation and according to UGC-CBCS

Course structure for B.Sc. in Economics
And
B.Sc. Honours in Economics / B.Sc. Honours with Research in Economics

Category definition with credit breakup

Semester	Credits										Credits /Semester
	MC/ME	ME		Non-Major		MDC	AEC	SEC	VAC	INT	
		Course	Project	NM	NV						
I	4+4			4(from department)	1(*d)+1(*e)		2(*c)	3(*b)	2(*a)		21
II	4+4				1+1	3	2	3	2		20
III	5+5			4	1+1	3	2				21
IV	5+5			4	1+1	3	2				21
V	5+5+4				1+1			3	2		21
VI	4+4+4			4	1+1					3	21
VII	4+4+4+4			4							20
VIII		8/20	12/0								20
Credits/ Course	98			32		9	8	9	6	3	
Total Credit											165

Major – Major Program Specific Course – Compulsory (MC); Major Program Specific Course – Elective (ME); NM – Non-Major Specific Subject Course; NV – Non-Major vocational education and training; MDC – Multidisciplinary courses; AEC – Ability Enhancement Courses; SEC – Skill Enhancement Courses; VAC – Value Added Courses; INT – Internship; Project – Project.

Category	Course name	Credit	Teaching Scheme		
			L	T	P
Semester I					
MC1	Introductory Microeconomics	4	3	1	
MC2	Introductory Macroeconomics	4	3	1	
NM1	Selected by Student from Non Major Basket	4	3	1	
NV1	Vocational – Soft Skill Development I	1			
NV2	Vocational - EAA I (Yoga/ Sports/ NCC/ NSS) I	1			
AEC1	Communicative English I	2			
SEC1	Computer Applications - I	3			
VAC1	Environmental Science I	2			
Total Credit = 21			Teaching Hour = 21		
Semester II					
MC3	Statistics	4	3	1	
MC4	Intermediate Microeconomics	4	3	1	
NV3	Vocational – Soft Skill Development II	1			
NV4	Vocational - EAA I (Yoga/ Sports/ NCC/ NSS) II	1			
MDC 1	Selected by Student from MDC Basket	3	2	1	
AEC 2	Communicative English II	2			
SEC2	Computer Applications - II	3			
VAC2	Environmental Science II	2			
Total Credit = 20			Teaching Hour = 20		
Semester III					
MC5	Intermediate Macroeconomics	5	4	1	
MC6	Mathematical Economics	5	4	1	
NM2	Selected by Student from Non Major Basket	4	3	1	
NV5	Vocational – Soft Skill Development III	1			
NV6	Mentored Seminar- I	1			
MDC2	Selected by Student from MDC Basket	3	2	1	
AEC3	Logical Ability/FL I	2			
Total Credit = 21			Teaching Hour = 21		
Semester IV					
MC 7	Growth and Development	5	4	1	
MC 8	Public Finance	5	4	1	
NM3	Selected by Student from Non Major Basket	4	3	1	
NV7	Vocational – Soft Skill Development IV	1			
NV8	Mentored Seminar - II	1			
MDC3	Selected by Student from MDC Basket	3	2	1	
AEC4	Logical Ability/FL II	2			
Total Credit = 21			Teaching Hour = 21		

Category	Course name	Credit	Teaching Scheme		
			L	T	P
Semester V					
MC 9	Basic International Trade	5	4	1	
MC 10	Money and Banking	5	4	1	
MC 11	Indian Economy	4	3	1	
NV9	Vocational – Soft Skill Development V	1			
NV10	Mentored Seminar - III	1			
SEC3	Data Analysis	3			
VAC3	Ethics I	2			
Total Credit = 21			Teaching Hour = 21		
Semester VI					
MC12	Basic Econometrics and Application	4	3	1	
MC13	Advanced International Trade	4	3	1	
MC14	Basic Financial Economics	4	3	1	
NM4	Selected by Student from Non Major Basket	4	3	1	
NV11	Vocational – Soft Skill Development VI	1			
NV12	Mentored Seminar - IV	1			
INT1	Internship	3			3
Total Credit = 21			Teaching Hour = 21		
Semester VII					
MC15	Economics of Marketing	4	3	1	
MC16	Research Methodology	4	3	1	
MC17	Advanced Financial Economics	4	3	1	
MC18	Behavioural Economics	4	3	1	
NM5	Selected by Student from Non Major Basket	4	3	1	
Total Credit = 20			Teaching Hour = 20		
Semester VIII					
MC19	Rural Economics	4	3	1	
MC20	Environmental Economics	4	3	1	
Project / Courses *	Project / Economics of Social Sector /Behavioral Finance/ Economics of Insurance/Game Theory/Economics of Demography	12/(4+4+4)	0/9	3	
Total Credit = 20			Teaching Hour = 32/20		

*Please Note: Any three of 5 options may be chosen.

Subject Specific Non- Major Course Basket NM offered by the Economics Department :

Introduction to Micro Economics, semester I (4 Credits)
Introduction to Macro Economics,, semester III(4 credits)
Introduction to Public Finance, semester IV(4 credits)
Indian Economy and Indian Financial System, Semester VI (4credits)
Basics of Money and Banking , Semester VII (4credits)
Total : 20 Credits

Multi -Disciplinary Course (MDC) offered by the Economics Department:
Economic History of India, Semester II (3 credits)
Issues in the Contemporary Indian Economy, Semester III (3Credits)
Introduction to Behavioral Economics, Semester IV (3 Credits)
Total : 12 Credits

Programme Objective (PO)

At the end of the program student will be able to:-
PO1: To participate in various types of employment, development activities and public discourses Particularly in response to the needs of the Society.
PO2: To understand the need and have the competencies to support local, regional and national development
PO3: To develop critical and analytical thinking
PO4: To develop conceptual understanding, problem solving and application of skills
PO5: To incite entrepreneurship among the students along with strong ethics and communication skills
PO6: To develop a questioning mind in diverse environments for better outcomes
PO7: To engage in lifelong learning and enduring proficient progress.

Introductory Microeconomics

Credit: 4 **Total Teaching Hours: 60**

Objectives:

The basic objective of this course is to introduce students to the principles of microeconomics. There are two broad economic decisions that an Economist has to make: the behaviour of individuals and firms in making decisions regarding the allocation of scarce resources and the interactions among these individuals and firms. Based on the outcome of these two decisions, students can analyse the market mechanisms that establish relative prices among goods and services and allocate limited resources among alternative uses.

This course introduces various factors behind these decisions. The aim is to provide a grounding in the theory and practice of Microeconomics at an introductory level, and a synthesis of the most important current research in Microeconomics, with an emphasis on the applications of the principles.

Module-1: Basic Concepts **15 hours**

Scarcity and Choice; Production possibility frontier, Positive and normative economics; constructing a model, scientific method; concepts of opportunity cost, rate of growth, and total, average and marginal functions. Demand and Supply: Market demand, elasticity, shifts and movements, Applications of Demand, Supply and elasticity.

Module-2: Consumer Behaviour **15 hours**

Cardinal theory, derivation of demand in case of one or more goods; Ordinal theory: Budget sets and Preferences under different situations. Indifference curves: the marginal rate of substitution. Consumer equilibrium; effects of change in prices and income; Engels curve. Derivation of the demand curve. Income and substitution effects: Hicks and Slutsky.

Module-3: Production **15 hours**

Production functions: single variable - average and marginal product, variable proportions, stages of production. Two variables - isoquants, returns to scale and to a factor; factor prices; cost

minimization and output maximization; Elasticity of substitution. Expansion path and the cost function.

Module-4: Cost and Markets **15 hours**

Concept of economic cost; Short-run and long-run cost curves; increasing and decreasing cost industries; envelope curve; L-shaped cost curves; economies of scale.

A. Perfect competition, Monopoly, Monopolistic Competition, Oligopoly and Duopoly (concepts only).

B. Short-run and Long-run equilibrium of firm and industry under Perfect competition, Effects of Taxation, Deadweight loss

References:

Basic Text

S R. Chakravarty: Microeconomics, Allied, New Delhi, 2016(sixth print)

Supplementary Readings

1.Samuelson, P.A, and William. D. Nordhaus: Economics, McGraw Hill Book Co. Singapore

2.Lipsey, R.G: An Introduction to Positive Economics, Weidenfeld and Nicholson, London.

3.Robert S. Pindyck, Daniel L. Rubinfeld, Prem L.Mehta: Microeconomics, 7th Edn. Pearson.

4.H. Varian: Intermediate Microeconomics, W. W. Norton & Company; Seventh edition

5.A. Koutsoyiannis: Modern Microeconomics, Macmillan Education

Course Objective

CO1: Students will be able to conceptualize the meaning and nature of microeconomics and understand the basic concept of economics.
CO2: Students will be able to understand, analyze and evaluate the theoretical concept of demand and apply forecasting of demand in practice.
CO3: Students will be able to know, apply and evaluate the concept of Production and Cost.
CO4: Students will be able to apply and evaluate the Consumer Behavior.
CO5: Students will be able to know and evaluate the different forms of Market.

Introductory Macroeconomics

Credit: 4 **Total Teaching Hours: 60**

Objectives

The basic objective of this course is to introduce students to the principles of macroeconomics. Macroeconomics deals with the performance, structure, behaviour, and decision-making of an economy as a whole. By studying macroeconomics students can understand aggregated indicators such as GDP, unemployment rates, national income, price indices, and the interrelations among the different sectors of the economy.

Module-1: The National Income and products accounts **5 hours**

A. Definition, concepts, and measurement of GNP, NNP, GDP, NDP, NI, DI, GNP deflator, GDP deflator and price indices.

B. Different methods of measuring national income – product method, income method, and expenditure method.

C. Problems of using national income as a measure of economic welfare.

D. Circular flow of income – equilibrium condition – concepts of injection, withdrawal, etc.

Module-2: The classical system: Theory of Income and Employment 15 hours

A. The Classical view of macroeconomics in respect of the determination of employment, output, and prices – Say's law of the market.

B. The Classical quantity theory of money and its criticisms – Fischer's transaction version - Cambridge cash balance version

Module-3: Keynesian Theory of Income and Employment 10 hours

A. Simple Keynesian theory of income and employment: Concept of effective demand

B. Keynesian consumption function, the relation between average propensity to consume and marginal propensity to consume – Simple Keynesian model, Employment and output Determination, the multipliers.

Module-4: Extension of Keynesian Theory of Income and Employment 10 hours

A. IS-LM model – construction of IS and LM curves – shapes –Motives of holding money – Transactions, Precautionary and Speculative motives.

B. Keynesian liquidity preference theory indeterminacy of the rate of interest in the liquidity preference theory – the liquidity trap.

C. Fiscal and Monetary Policy

D. Determination of equilibrium values of rate of interest and level of income.

E. Supply of money – Different sources of the money supply – M1, M2, M3, and M4

Module-5: Theory of Inflation 10 hours

A. Concept of inflation - Demand-pull inflation and cost-push inflation – comparison between them.

B. Inflationary gap – Limitations of it.

C. Consequences of inflation – measures to control inflation.

Module-6: Basics of Banking 10 hours

A. Functions of Commercial Banks

B. Functions of Central Bank

C. Credit creation by Commercial Banks – credit creation multiplier.

D. Credit control by Central Bank – Different methods of credit control.

References

Basic Text

Sikdar, S – Principles of Macroeconomics, 2nd Edition, Oxford University Press

Supplementary Books

1. Mankiw – Macroeconomics, Worth Publishers; Tenth edition
2. Branson – Macroeconomic Theory and Policy, Affiliated East-west Press Pvt Ltd.; 3rd edition
3. Dornbusch, Fisher, and Startz: Macroeconomics, McGraw Hill Education; Twelfth edition
4. Froyen – Macroeconomics – Theories and Policies, 10th Edition, Pearson.

Course Objective

CO1: Students will be able to know about nature, importance and limitations of macro economic analysis. They will understand interdependence with microeconomics .
CO2: Students will be able to know about National Income. They will be able to calculate National Income. They will be aware of GNP as an indicator of welfare.
CO3: Students will be aware of Macro Market Analysis. They will understand Classical and Keynsian theory of Income Determination.
CO4: Students will understand Functions and forms of Money and quantity theory of money.
CO5: Students will know about IS-LM Analysis. Students will be able to define the Role of Monetary and Fiscal Policy by using IS-LM model.

Basic Statistics

Credit: 4 **Total Teaching Hours: 60**

Objectives

The objective of the paper is to introduce some basic concepts and terminology to the students that are fundamental to statistical analysis and inference. It then develops the notion of probability, followed by probability distributions of discrete and continuous random variables and of joint distributions. This is followed by a discussion on sampling techniques used to collect survey data. The course introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. The semester concludes with some topics in statistical inference that include point and interval estimation.

Module-1: Introduction, central tendency & dispersion: 10 hours

The distinction between populations and samples and between population parameters and sample statistics. Diagrammatic and graphic representation of statistical data. The use of measures of location and variation to describe and summarize data; Measures of central tendency: A.M., G.M., H.M., Median, quartiles, deciles, percentiles, mode, relationship. between A.M., G.M. and H.M., Selection of an average, Limitations of Averages.

Measures of dispersion: range, interquartile range, quartile deviation, mean deviation, standard deviation, standard deviation of the combined series, variance, coefficient of variation, relation between various measures of dispersion, Lorenz curve, skewness, and Kurtosis.

Module-2: Elementary Probability Theory: 5 hours

Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence.

Module-3: Random Variables and Probability Distributions: 15 hours

Defining random variables; probability distributions; expected values of random variables and of functions of random variables; properties of commonly used discrete and continuous distributions (uniform, binomial, normal, poisson and exponential random variables).

Module-4: Sampling 10 hours

Principal steps in a sample survey. Sampling Census versus sample enumeration. Methods and types of sampling, the role of sampling theory, sampling error, small and large sample, concept of an estimator and its sampling distribution.

Module-5: Point and Interval Estimation: 10 hours

Estimation of population parameters using methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals for population parameters.

Mpdule-6: Correlation and regression 10 hours

Simple correlation, Pearson, spearman's correlation coefficients, multiple and partial correlation analysis, specification of a simple linear regression model, least square estimation of linear regression coefficients, interpretation of correlation and regression coefficients and their properties.

Basic Text:

Readings:

1. Jay L. Devore, Probability and Statistics for Engineers, Cengage Learning, 2010.

2. John E. Freund, Mathematical Statistics, Prentice Hall, 1992.

3. Richard J. Larsen and Morris L. Marx, An Introduction to Mathematical Statistics

Course Objective

CO1: Students will be able to know about statistical methods, population, and sample. Qualitative and quantitative data attributes and variables understand different Scales of Measurement.
CO2: Students will be able to compute Mean, Median, Mode, Geometric Mean and Harmonic Mean, compute Quartiles and Percentiles.
CO3: Students will be able to understand basics of the probability theory.
CO4: Students will be able to solve the problems related with probability distribution.
CO5: Students will be able to compute and interpret correlation and regression coefficients and their properties.

Intermediate Microeconomics

Credit: 4 **Total Teaching Hours: 60**

Objectives

The objective of the course is to provide analytical outlook of modern microeconomics. The modern and contemporary world is affected by various challenges. These challenges arise from imperfection in microeconomic units. It is expected that after going through the course students will be able to understand microeconomic challenges.

Module-1: Imperfect Markets (Nature, Pricing and Equilibrium of markets) 15 hours

A. Monopoly

B. Monopolistic competition

C. Oligopoly

Module-2: Theory of Factor Pricing 15 hours

A. Rent: Ricardian Theory and Modern Theory

B. Marginal Productivity Theory of Distribution, Factor price determination

C. Market demand and supply curves of factor and determination of factor price

D. Monopsony

Module-3: Information Asymmetry 15 hours

A. Economics of Information

B. Akerlof's Model of market for lemons

B. Adverse Selection

C. Moral Hazard

D. Signalling

E. The Principal-Agent Model.

F. Risk and Uncertainty

Module-4: General Equilibrium & Welfare Economics 15 hours

A. Pure Exchange Model (Edgeworth box, Pareto efficient allocations, Core, Walrasian general equilibrium, Walras Law, Existence of general equilibrium, Two fundamental theorems).

B. Pareto optimality, Arrow's Theorem, Social welfare functions, production possibilities frontier, utility possibilities frontier, welfare maximization.

References

Basic Text

S. R.Chakravarty: Microeconomics, Allied, New Delhi, 2016(sixth print)

Supplementary Readings

1. Samuelson, P.A and William. D. Nordhaus, Economics, McGraw Hill Book Co. Singapore.

2. Lipsey, R.G: An Introduction to positive Economics, Weidenfeld and Nicholson, London. 3.Robert S. Pindyck, Daniel L. Rubinfeld, PremL.Mehta: Microeconomics, 7th Edn. Pearson.

4. H. Varian: Intermediate microeconomics, W. W. Norton & Company; Seventh edition (December 20, 2005)

5. Ryan and Pearce: Price Theory, Macmillan Book Co.

Course Objective

CO1: Students will be able to define the market and conceptualize the market structure.
CO2: Students will be able to understand, analyze and evaluate the theoretical concept of Nature, Pricing and Equilibrium of Imperfect markets .
CO3: Students will be able to understand, apply and evaluate the factor Pricing.
CO4: Students will be able to apply and evaluate the Economics of Information.
CO5: Students will be able to evaluate the various aspects of market failure and welfare Economics.

Intermediate Macroeconomics

Credit: 4 **Total Teaching Hours: 60**

Objectives

The objective of the course is to provide knowledge of the chronological development of Macroeconomics. This will help students to understand current macroeconomic situations.

Module-1: Unemployment **10 hours**

The Natural Rate – Types of Unemployment – Full Employment – Costs of Unemployment. Wage rigidity- Generic Efficiency wage Model -Stiglitz Shapiro model.

Module-2: Wage-Unemployment-Inflation Trade-off **10 hours**

The Phillips Curve, Short run and long run, Theories of Inflation – A Brief Review; Demand-pull, Cost-push, Monetary, and Structural Inflation; Stagflation; Costs of Inflation; Anti-Inflationary Policy.

Module-3: The Demand for Money **10 hours**

Keynesian liquidity preference, Baumol-Tobin model, Tobin's Portfolio Balance Approach Portfolio Balance Approach.

Module-4: The Supply of Money **10 hours**

The balance sheet of RBI- sources & components of High-powered money. A balance sheet of Commercial Banks- sources & components of the money supply. Concept of Money Multiplier.

Module-5: Open-Economy- Macroeconomics **20 hours**

Balance of Payments accounting; national product accounting; monetary accounting. Different Exchange rate regimes and concepts of the exchange rate. IS-LM model with goods trade: comparative statics results- Monetary policy, Fiscal policy, Exchange rate policy (Devaluation). The Mundell-Fleming Model.

References

Basic Text

Sikdar, S – Principles of Macroeconomics, 2nd Edition, Oxford University Press.

Supplementary Readings

1. Mankiw – Macroeconomics, Worth Publishers; Tenth edition

2. Branson, W. (1989) – Macroeconomic Theory and Policy; (3rd Ed, Harper & Row)

3. Dornbush, R. S. Fischer and Startz (2004) – Macroeconomics (9th Ed, Tata-McGraw Hill

Course Objective

CO1: Students will be able to know about types, cause and cost of unemployment.
CO2: Students will be able to understand about Inflation and Unemployment trade-off.
CO3: Students will be able to know about Open Economy Models in Short Run
CO4: Students will be able to know about Open Economy Models like Mundell-Fleming. They will understand about balance of payment.
CO5: Students will understand about Classical and Keynesians, Neo Classical and New Keynesians School of thoughts.

Mathematical Economics

Credit: 4 **Total Teaching Hours: 60**

Objectives

The objective of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook

Module-1: Preliminaries **6 hours**

Basic set operations; relations; functions, number systems.

Module-2: Functions of one variable **8 hours**

Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties, and applications; continuous functions: Intermediate Value Theorem; differentiable functions: properties concerning various operations and applications; second and higher-order derivatives: convex, concave functions

Module-3: Functions of Two or More Variables **10 hours**

Partial derivatives, total differentiation, convex, concave, quasi-concave functions, homogenous, homothetic functions, Euler's Theorem Applications in Economics

Module-4: Single-variable optimization **5 hours**

Local and global optima: geometric characterizations, characterizations using calculus and applications.

Module-5: Integration of functions and Difference Equations **5 hours**

Areas under curves; indefinite integrals; the definite integral. First-order difference equations

Module-6: Linear Programming Problem **12 hours**

Linear Programming Technique as a Tool of optimization – General Formulation of the LP Problem – Applications in Economics – Graphical solution of some standard problems, Concepts of Slack Variable, Basic Feasible Solution – Solution of some simple problems by Simplex Method (Maximization case only)- The Dual problem – Economic Interpretation of Duality.

Module-7: Input-Output Analysis **10 hours**

Basic Concept of Input-Output Analysis – Assumptions and structure of the Leontief Static Open Model (2 ×2 Case) – Solution in such a Model – Hawkins – Simon condition and it's Economic Interpretation.

Module-8: Decision Under Uncertainty **4 hours**

Expected Utility Maximisation.

References

Basic Text

Alpha. C. Chiang and Kevin Wainwright, Fundamental Methods of Mathematical Economics, McGraw Hill Education; latest edition

Readings:

1. K. Sydsaeter and P. Hammond, Mathematics for Economic Analysis, Pearson Educational Asia: Delhi, 2002.

2. S Chakravarty, Quantitative Economics: Theory and Practices, Allied Publishers, New Delhi

3. Dorfman, Samuelson, and Solow: Linear Programming and Economic Analysis

4. N. D. Vora: Quantitative Techniques in Management, Tata McGraw Hill.

5. Sharma: Operation Research, Theory and Applications, Macmillan India Ltd.

6. Taro Yamane: Mathematics for Economists- An Elementary Survey

7. Henderson (2003) Microeconomic Theory- A Mathematical Approach (3e), McGraw Hill.

8. Simon C and L. Blume, Mathematics for Economists, Viva books, 2009.

Course Objective

CO1: Students will be able to know about Preliminaries of Mathematical Economics.
economic analysis. They will understand the different functions of one variable .
CO2: Students will be able to understand and apply Partial derivatives, total differentiation, convex, concave, quasi-concave functions, homogenous, homothetic functions, Euler's Theorem Applications in Economics.
CO3: Students will be aware of applications of Single-variable optimization.
CO4: Students will understand Integration of functions and Difference Equations
CO5: Students will be able to solve the Linear Programming Problems.