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UNIVERSITY BAREILLY
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Scheme of Instruction & Syllabi

of

Bachelor of Arts (Honours) Economics

(Effective from the academic session 2022-2023)

Faculty of Science & Humanities

Invertis University

NH-24, Bareilly-Lucknow Highway, Bareilly

COURSE STRUCTURE OF B. A. Hons Economics

Invertis University, Bareilly offers B.A. (Hons) Economics programme aligned with Choice Based Credit System (CBCS) under which following types of courses are offered

a. **Core Courses (CC).** A core course is a compulsory course. A student of Economics (Hons) has to take fourteen such Economics courses over six semesters.

b. **Elective Courses (EC).** An elective course is a course that is to be chosen from a specified set of courses. These courses are of two types.

c. **Discipline Specific Electives (DSE).** These are elective courses that provide advanced undergraduate training in specialised areas of Economics. A set of seven, semester-specific, courses of this kind are offered in the fifth and sixth semesters of the Honours programme. In each of these semesters, a student has to take two such courses from the relevant semester's set of seven courses.

d. **Generic Electives (GE).** These courses, in disciplines other than Economics, are intended to broaden the training of a student in the Economics (Hons) programme. A student of Economics will take one such course, offered by another department, in each of Semesters I to IV.

e. **Ability Enhancement Compulsory Course (AECC).** Two such courses are to be taken, one in Semester I (Art of Communication, equivalent to MIL) and one in Semester II (Environmental Science).

f. **Skill Enhancement Course (SEC).** A student is to take one such course in Semester III and one in Semester IV.

1. Number of Courses and Credits

a. Core Courses (CC): 14 (6 credits each)
b. Discipline Specific Electives (DSE): 4 (6 credits each)
c. Generic Electives (GE): 4 (6 credits each)
d. Skill Enhancement Courses (SEC): 2 (4 credits each)
e. Ability Enhancement Compulsory Courses (AECC): 2 (4 credits each)
Total number of courses (credits) taken by a student: 26 (148)

Table 1. Semester-wise Distribution of Credits

Year	Semester	Courses x Credit per Course	Total Credits
First	I	2 DSC x 6	22
		1 AECC x 4	
		1 GE x 6	
	II	2 DSC x 6	22
		1 AECC x 4	
		1 GE x 6	
Second	III	3 DSC x 6	28
		1 SEC x 4	
		1 GE x 6	
	IV	3 DSC x 6	28
		1 SEC x 4	
		1 GE x 6	
Third	V	2 DSC x 6	24
		2 DSE x 6	
	VI	2 DSC x 6	24
		2 DSE x 6	
Total		**26**	**148**

Scheme of Instruction

B. A. Hons. Economics

First year

S. No.	Category	Course Code	SUBJECT	PERIODS			Evaluation Scheme		Subject Total	Credit
				L	T	P	CA	EE		
I-SEMESTER										
1	DSC-11	HEC101	Mathematical Methods for Economics I	5	1	0	50	100	150	6
2	DSC-12	HEC102	Introductory Micro -economics	5	1	0	50	100	150	6
4	AECC	HEA101	Art of Communication	3	1	0	30	70	100	4
5	GE-1	HEG101	Introductory Microeconomics	5	1	0	50	100	150	6
			TOTAL	**18**	**4**	**8**	**180**	**370**	**550**	**22**
II-SEMESTER										
1	DSC-21	HEC201	Mathematical Methods for Economics II	5	1	0	50	100	150	6
2	DSC-22	HEC202	Introductory Macro-economics	5	1	0	50	100	150	6
4	AECC	HEA201	Environmental Science	3	1	0	30	70	100	4
5	GE-2	HEG201	Introductory Macroeconomics	5	1	0	50	100	150	6
			TOTAL	**13**	**3**	**18**	**4**	**8**	**180**	**22**

1. Programme Objectives

The programme aims to:

1. Train students in basic economic theory
1. Equip students with the mathematical and statistical techniques necessary for a proper understanding of the discipline;
2. Discuss real world economic issues and problems facing the country and the world;
3. Enable students to understand proper policy responses to economic problems;
4. Train students to collect primary data and learn sampling techniques;
5. Train students to use statistical and econometric methods to arrive at conclusions about the validity of economic theories;
6. Train students to learn the art of economic modelling.

2. Programme Learning Outcomes

Students will:

1. Get an understanding of basic economic theory;
2. Learn the mathematical and statistical techniques necessary for a proper understanding of the discipline;
3. Get an introduction to real world economic issues and problems facing the country and the world;
4. Gain an understanding of proper policy responses to economic problems;
5. Get trained to collect primary data and learn sampling techniques;
6. Learn to use scientific empirical methods to arrive at conclusions about the validity of economic theories;
7. Get trained in the art of economic modeling.

3.Teaching Learning Process

Teaching and learning in this programme involves classroom lectures as well tutorials. The tutorials allow a closer interaction between the students and the teacher as each student gets individual attention. In tutorials, the teacher can keep track of each student's progress and address her/his individual difficulties. Written assignments and projects submitted by students as part of the course are also discussed in tutorials. Some courses also have a laboratory component and some require the students to undertake an independent research project and submit a written report at the end of the project. Research projects will encourage independent thinking among students and prepare them to carry out research on their own after completion of the degree. Students will be assigned regular home assignments and will be tested periodically through quizzes and class tests to ensure that they have properly learnt the course material.

4.Assessment Methods / Evaluation Scheme

Assessment methods and evaluation schemes will be as *per* University of Delhi norms. Practical papers will also follow the evaluation scheme of University of Delhi.

Core Courses

Semester-I

HEC101: Mathematical Methods for Economics I

Core Course (CC) Credit: 6

Course Objective

This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body 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.

Course Learning Outcomes

The course hones and upgrades the mathematical skills acquired in school and paves the way for the second semester course Mathematical Methods in Economics II. Collectively, the two papers provide the mathematical foundations necessary for further study of a variety of disciplines including economics, statistics, computer science, finance and data analytics. The analytical tools introduced in this course have applications wherever optimisation techniques are used in business decision-making. These tools are necessary for anyone seeking employment as an analyst in the corporate world. The course additionally makes the student more logical in making or refuting arguments.

Unit 1

Preliminaries Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems

Unit 2

Functions of one real variable Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications;

Continuous functions: characterisations, properties with respect to various operations and applications;

Differentiable functions: characterisations, properties with respect to various operations and applications;

Second and higher order derivatives: properties and applications

Unit 3

Single-variable optimization Geometric properties of functions: convex functions,

their characterisations and applications; local and global optima: geometric and calculus-based characterisations, and applications

Unit 4

Linear algebra Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications

References

1. Sydsaeter, K., Hammond, P. (2002). *Mathematics for economic analysis*. Pearson Educational.

Teaching Learning Process

Lectures and tutorials

Keywords

Sets, functions, continuity, differentiability, vector space, linear mappings

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HEC102: Introductory Microeconomics

Core Course (CC) Credit: 6

Course Objective

This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

Course Learning Outcomes

The course introduces the students to the first course in economics from the perspective of individual decision making as consumers and producers. The students learn some basic principles of microeconomics, interactions of supply and demand, and characteristics of perfect and imperfect markets.

Unit 1

Introduction What is microeconomics? Scope and method of economics; the economic problem: scarcity and choice; the concept of opportunity cost; the question of what to produce, how to produce and how to distribute output; science of economics; institutions for allocating resources; the basic competitive model; prices, property rights and profits; incentives and information; rationing; positive versus normative analysis

The scientific method; the role of assumptions; models and mathematics; why economists sometimes disagree

Interdependence and gains from trade; specialization and trade; absolute advantage; comparative advantage and trade

Unit 2

Supply and demand: How markets work, markets and welfare Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets

Application to international trade; comparison of equilibria with and without trade, the winners and losers from trade; effects of tariffs and quotas; benefits of international trade; some arguments for restricting trade

Unit 3

The Households The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer‘s optimum choice; income and substitution effects; labour supply and savings decision; choice between leisure and consumption

Unit 4

The firm and perfect market structure Behaviour of profit maximizing firms and the production process; short-run costs and output decisions; costs and output in the long-run

Unit 5

Imperfect Market Structure Monopoly and anti-trust policy; government policies towards competition; imperfect competition

Unit 6

Input Markets Labour and land markets: Basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; labour markets and public policy

References

1. Bernheim, B., Whinston, M. (2009). *Microeconomics.* Tata McGraw-Hill.
2. Mankiw, N. (2007). *Economics: Principles and applications, 4th ed.* Cengage Learning.

Teaching Learning Process

Lectures and tutorials

Keywords

Supply, demand, elasticity, consumer behaviour, firm behaviour, perfect and imperfect markets

Semester-II

HEC201: Mathematical Methods for Economics II

Core Course (CC) Credit: 6

Course Objective

This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The objective of this sequence is to transmit the body 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.

Course Learning Outcomes

The course provides the mathematical foundations necessary for further study of a variety of disciplines including postgraduate economics, statistics, computer science, finance and data analytics. The analytical tools introduced in this course have applications wherever optimization techniques are used in business decision-making for managers and entrepreneurs alike. These tools are necessary for anyone seeking employment as an analyst in the corporate world.

Unit 1

Functions of several real variables Geometric representations: graphs and level curves; differentiable functions: characterisations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterisations and applications

Unit 2

Multivariate optimization Convex sets; geometric properties of functions: convex functions, their characterisations, properties and applications; further geometric properties of functions: quasiconvex functions, their characterisations, properties and applications; unconstrained optimisation: geometric characterisations, characterisations using calculus and applications; constrained optimisation with equality constraints: geometric characterisations, Lagrange characterisation using calculus and applications; properties of value function: envelope theorem and applications

Unit 3

Linear programming Introduction, graphical solution, matrix formulation, duality, economic interpretation

Unit 4

Integration, differential equations, and difference equations Definite integrals, indefinite integrals and economic applications; first order difference equations, equilibrium and its stability; first order differential equations, phase diagrams and stability

References

1. Sydsaeter, K., Hammond, P. (2002). *Mathematics for economic analysis*. Pearson Educational.

Teaching Learning Process
Lectures and tutorials

Keywords
Functions of several real variables, multivariate optimisation, linear programming, integration, differential equations, and difference equations

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HEC202: Introductory Macroeconomics
Core Course (CC) Credit: 6

Course Objective
This is the first module in a three-module sequence that introduces students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like GDP, savings, investment, money, inflation, and the balance of payments. It also introduces students to simple analytical frameworks (e.g., the IS-LM model) for determination of equilibrium output.

Course Learning Outcomes
This course aims to develop the broad conceptual frameworks which will enable students to understand and comment upon real economic issues like inflation, money supply, GDP and their interlinkages. It will also allow them to critically evaluate various macroeconomic policies in terms of a coherent logical structure.

Unit 1
Introduction to macroeconomics and national income accounting Basic issues studied in macroeconomics: Measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for an open economy; balance of payments: current and capital accounts

Unit 2
Money Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy

Unit 3
Inflation Inflation and its social costs; hyperinflation

Unit 4

The closed economy in the short run Classical and Keynesian systems; simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers

References

1. Abel, A., Bernanke, B. (2016). *Macroeconomics, 9th ed*. Pearson Education.
2. Blanchard, O. (2018). *Macroeconomics, 7th ed*. Pearson Education.
3. Dornbusch, R., Fischer, S., Startz, R. (2018). *Macroeconomics, 12th ed*. McGraw-Hill.
4. Jones, C. (2016). *Macroeconomics, 4th ed.* W. W. Norton.
5. Mankiw, N. (2016). *Macroeconomics, 9th ed.* Worth Publishers.

Teaching Learning Process

Lectures and tutorials

Keywords

National income accounting, money, inflation, classical model, Keynesian model

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Generic Elective Courses

HEG011: Introductory Microeconomics

Generic Elective (GE) Credit: 6

Course Objective

This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

Course Learning Outcomes

The course introduces the students to the first course in Economics from the perspective of individual decision making as consumers and producers. The students learn some basic principles of microeconomics, interactions of supply and demand and characteristics of perfect and imperfect markets.

Unit 1

Introduction What is microeconomics? Scope and method of economics; the economic problem: scarcity and choice; the concept of opportunity cost; the question of what to produce, how to produce and how to distribute output; science of economics; Institutions for allocating resources; the basic competitive model; prices, property rights and profits; incentives and information; rationing; positive versus normative analysis. The Scientific method; the role of assumptions; models and mathematics; why economists sometimes disagree. Interdependence and gains from trade; specialisation and trade; absolute advantage; comparative advantage and trade

Unit 2

Supply and demand: Markets and welfare Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets. Application to international trade; comparison of equilibria with and without trade, the winners and losers from trade; effects of tariffs and quotas; benefits of international trade; some arguments for restricting trade

Unit 3

The households The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer‘s optimum choice; income and substitution effects; labour supply and savings decision - choice between leisure and consumption

Unit 4

The Firm and Perfect Market Structure Behaviour of profit maximizing firms and the production process; short run costs and output decisions; costs and output in the long run

Unit 5

Imperfect Market Structure Monopoly and anti-trust policy; government policies towards competition; imperfect competition

Unit 6

Input Markets Labour and land markets - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; and labour markets and public policy

References

1. Bernheim, B., Whinston, M. (2009). *Microeconomics*. Tata McGraw-Hill.
2. Mankiw, N. (2007). *Economics: Principles and applications, 4th ed*. Cengage Learning.

Teaching Learning Process

Lectures and tutorials

Keywords

Supply, demand, elasticity, consumer behaviour, firm behaviour, perfect and imperfect markets

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HEG021: Introductory Macroeconomics

Generic Elective (GE) Credit: 6

Course Objective

This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like GDP, savings, investment, money, inflation, and the balance of payments. It also introduces students to simple analytical frameworks (e.g., the IS-LM model) for determination of equilibrium output.

Course Learning Outcomes

This course will allow students to understand the basic functioning of the macroeconomy.

Unit 1

Introduction to macroeconomics and national income accounting Basic issues studied in macroeconomics; measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for an open economy; balance of payments: current and capital accounts

Unit 2

Money Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy

Unit 3

Inflation Inflation and its social costs; hyperinflation

Unit 4

The closed economy in the short run Classical and Keynesian systems; simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers

References

1. Abel, A., Bernanke, B. (2016). *Macroeconomics, 9th ed*. Pearson Education.
2. Blanchard, O. (2018). *Macroeconomics, 7th ed*. Pearson Education.
3. Dornbusch, R., Fischer, S., Startz, R. (2018). *Macroeconomics, 12th ed*. McGraw-Hill.
4. Jones, C. (2016). *Macroeconomics, 4th ed.* W. W. Norton.
5. Mankiw, N. (2016). *Macroeconomics, 9th ed.* Worth Publishers.

Teaching Learning Process

Lectures and tutorials

Keywords

GDP, BOP, money, inflation, classical model, Keynesian model