LORETO COLLEGE
SEMESTER – V TIME PLAN 2025
(September-December)

Course: Mathematical Economics – I (DSCC- 11)

Teacher's Name: Mainak Bhattacharjee

Initial: MB

Learning Objectives:

1. To introduce students with the core concept of 'Game' as a tool of explaining strategic inter-dependence among individuals sharing a common goal in a given socio-economic context.

2. To familiarize students with different types of games, classified on the basis of how the actors/players are decisive and take actions vis-à-vis each other in a given context, as well as, the nature of distribution of information and payoffs among them

3. To impart knowledge in the different algorithms used for solving a game and thereof, predicting the outcome of the strategic interaction represented by the game.

Topic-wise Time Plan

Unit/ Module	Hours Alloted	Topic as per the curriculum	Teaching Methods	Learning Outcomes	Assessments
18.1	10 hours	• Concept of a Game- Pure & Mixed strategy types, Constant & Non constant-sum games • Static Games (with complete information)/ Normal Form game: Algorithm/methods of solving a game, viz, Max-Min & Min-Max technique, Nash-equilibrium (degenerate & non-degenerate cases) • Games with Dominant	Lecture & Demonstration, Case studies, Simulations, Problem-solving, Case Studies	Students will be able to apply 'theory of games' in explaining the behavior of economic agents in collective setting, where the decisions and actions of the agents are mutually reinforcing	Tutorial, Assignments

		& Dominant strategies/ finding equilibrium using iterative elimination method • A few canonical games: Prisoners' Dilemma, Battle of Sexes, Matching Pennies • Sequential Game or Extensive form games (with incomplete information)- concept of Sub- game Perfect Nash equilibrium , solving using Selten's backward induction method		in nature, like the behavior of production firm in oligopolistic markets/ industrial organization	
18.2	5	• Integration of function • Integration by substitution and by parts • Application in Economics	Lecture & Demonstration, Case studies, Simulations, Problem-solving,	Students will be able to devise mathematical model for explaining dynamics of economic variables and time value of money	Tutorial, Assignments

LORETO COLLEGE
SEMESTER – V TIME PLAN 2025
(September-December)

Course: Introductory Econometrics – 1(DSCC- 13)

Name of the teacher: Mainak Bhattacharjee
Initials: MB

Teaching Objective:
- To introduce the students with empirical methods used in Economics
- To impart among the students the theoretical concept of Econometric as tool of empirical evaluation of economic theories and analysing issues in real-life context
- To familiarize students with the mathematical framework of various econometric models used in empirical Economics and their statistical underpinnings.

Topic-wise Time Plan

Topics	Hours allotted	Topics (as per curriculum)	Teaching method	Learning outcome (output)	Assessment
1.Nature and Scope of Econometrics	3	Ideas on economic and econometric model: their difference, distinction between Statistics and Econometrics, Concept of stochastic relation and relevance of random disturbance in econometric model, data structures, applications in Economics	Lecture, Demonstration Interactive Sessions, Case studies	Students will able to understand the broad scaffolding of econometric modelling as tool of deductive reasearch	Assignment, Tutorials
2.Classical Linear Regression	27	Part1: Simple Linear Regression Model (SLRM): concepts, assumptions, estimation approach,	Lecture demonstration, Interaction Sessions, Problem	Students will be able to understand the Classical theory of	Assignment, Tutorial

		properties of estimate (Gauss-Markov Theorem) Part II: MultipleLinear Regression Model: concepts, assumptions, ideas on partial correlation , multiple correlation Hypothesis testing on regression estimates and goodness of fit (t test, F-test), Adequacy checks: R^2, Adjusted R^2, AIC & SIC	Solving & Case Studies	regression analysis and its application in empirical quantification and appraisal of economic theories	
3. Qualitative Independent Variable	10	Models with Intercept Dummy and Slope Dummy. Forecasting: Ex-post & Ex-ante forecast, forecast error (only for two variable model)	Lecture, Demonstration, Interaction Sessions, Problem Solving & Case Studies	Students will be to make qualitative analysis of an econometric model in terms of its structural stability and applicability	Assignment, Tutorial
4.Vioalation of Classical Model	5	Concepts of heteroscadasticity, autocorrelation(or serial correlation), multicollinearity : consequences detection and remedial	Lecture, Demonstration, Interaction Sessions, Problem Solving & Case Studies	Students will be to understand the implications of digression from Classical set-up of regression modelling	Assignment, Tutorial

LORETO COLLEGE, KOLKATA
TIME PLAN
AUGUST 2025-JANUARY 2026

3rd Semester Topic-wise Time Plan
Paper: ECON-H-CC4-3-Th
Development Economics (I)

Name of the teacher: Mainak Bhattacharjee
Initials: MB

Teaching Objectives:
- To expound the implications of economic dualism for development
- To divulge the issues regarding regional imbalance and economic growth

Topics	Hours allotted	Topics (as per curriculum)	Teaching method	Learning outcome (output)	Assessment
Unit 9.2: Poverty, Inequality, And Development	12	Causes and Consequences of Poverty in Developing Economies _ Measurement 0f Poverty: Poverty Line, Poverty Indices .Human Poverty Index (HPI), Multidimensional Poverty Index (MPI) - Vicious Circle of Poverty Hypothesis _ Income Inequality andWealth Distribution .A Comparison of Commonly Used Inequality Measures (Lorenz Curve, Gini Coe¢ cient) _ Gender Inequality - Gender Inequality	a)Interactive Lecture b)Demonstration	* Students will be able to evaluate poverty and inequality measures and to critically assess the multidimensional nature of deprivation	Tutorial and assignment

		Index (GII)			
Unit 9.3: Dual Economy and Development Strategies	12	Surplus Labour and Disguised Unemployment-Basic Concepts; Lewis Model of Economic Development with Unlimited Supply of Labour;Balanced and Unbalanced Growth as Development Strategies; Choice of techniques	a)Interactive Lecture b)Demonstration c)Case Studies	Students will become acquainted with the theoretical perspectives of rural-urban migration And thereof, will be able to understand the linkages between industry and agriculture. Students will be able to identify the global strategies to achieving development	Tutorial and assignment

TIME PLAN (September 2025-January 2026)

Name of the teacher: Dr. Suranjana Mitra
Initials: SM

Teaching Objective:

- To assess the implications of rational expectations beyond just the New Classical theory by explaining the random-walk of consumption expenditure and the concept of regressive expectations in Tobin's model, demonstrating how this hypothesis influences various aspects of macroeconomic analysis
- To evaluate the effectiveness of monetary policy by understanding the concepts of rigidities in interest rates and credit rationing, and explain how these rigidities can impact the transmission mechanism of monetary policy
- To compare and contrast different theories of consumption, including the Keynesian consumption function, Fisher's theory of optimal intertemporal choice, the life-cycle hypothesis, and the permanent income hypothesis, and critically evaluate how each model explains household spending behavior
- To analyze and apply different models of money demand by explaining Baumol's inventory-theoretic model and Tobin's portfolio choice model, and provide a microeconomic foundation for the demand for money
- To differentiate between exogenous and endogenous growth theories by explaining the foundational concepts of the Harrod-Domar and Solow one-sector growth models, including the golden rule, and contrasting them with the basic ideas of endogenous growth theory, such as the AK model.

5th Semester Topic-wise Time Plan (Major)
(Macroeconomics III)

Topics	Hours allotted	Topics (as per curriculum)	Teaching method	Learning outcome (output)	Assessment
1 Basic Tenets of New Classical and New Keynesian Theories	10	New Classical Theory- The concept of rational expectations and the theory of real business cycle - introductory ideas, New Keynesian Theory- nominal rigidities and real rigidities, rigidities in	Lecture and interactive simulation	At the end of the unit the students will be able to · Explain the concepts of rational expectations and real	Assessment using critical analysis based questions

		interest rates and credit rationing- introductory ideas		business cycles and analyze their implications for macroeconomic policy. · Differentiate between nominal and real rigidities and evaluate how these rigidities can cause markets to fail to clear, providing a rationale for New Keynesian policy interventions.	
2. Macroeconomic Foundations II	15	Consumption: Keynesian consumption function; Fisher's theory of optimal intertemporal choice; life-cycle and permanent income hypotheses; Dusenberry's relative income hypothesis; rational expectations and random-walk of consumption expenditure, Demand for money: Regressive Expectations and Tobin's portfolio choice models; Baumol's inventory theoretic money demand.	Case studies and empirical analysis and Lecture	At the end of the unit the students will be able to: · Compare and contrast the major theories of consumption, including the Keynesian, Fisherian, life-cycle, and permanent income hypotheses. · Analyze how the concept of rational expectations leads to the	Essay type analytical based assessment

				random-walk of consumption hypothesis. · Evaluate the microeconomic foundations of money demand by applying the Baumol inventory-theoretic and Tobin portfolio choice models.	
3. Economic Growth	20	Harrod and Domar models of economic growth, Solow one sector growth model-golden rule- -dynamic efficiency, Technological progress, Elements of endogenous growth theory-basic ideas-the AK model	Lecture and Mathematical Derivation, Demonstration using real life examples	At the end of the unit the students will be able to: · Analyze the determinants of economic growth using the Harrod-Domar and Solow growth models. · Identify the conditions for a stable steady-state in the Solow model and explain the concept of the golden rule and dynamic efficiency. · Critically assess the role of technological progress in economic growth and	Problem-based assessment

				differentiate between exogenous and endogenous growth theories, particularly the AK model. .	

TIME PLAN 2025 (September 2025 – January 2026)

Name of the teacher: Dr. Suranjana Mitra

Initials: SM

Teaching Objective:

- To explain the concept of financial inclusion and analyze its role as a key driver of economic development, particularly in reducing poverty and inequality

- To evaluate the challenges that rural populations face in accessing formal financial services and assess the impact of microfinance in providing credit and other financial services to alleviate poverty

- To identify and explain the core functions of banks and other financial institutions in an economy, including mobilizing savings, allocating credit, and promoting stable economic growth

- To differentiate between the objectives and functions of the IMF, World Bank, and WTO and analyze how each institution contributes to global economic stability and development.

5th Semester Topic-wise Time Plan (MECO)

(Development Economics I)

Topics	Hours allotted	Topics (as per curriculum)	Teaching method	Learning outcome (output)	Assessment
Financial Inclusion and Development	12	Financial Inclusion and Its Impact on Economic Development Access to Credit and Financial Services in Rural Areas - Microfinance and Its Role in Poverty Alleviation Role of Banks and Financial Institutions in Promoting Development Objectives and Functions of IMF, World Bank and WTO	Lecture and discussion using real-life examples	After completing the unit, the students will be able to: define financial inclusion and explain how it serves as a foundational component for poverty alleviation and sustainable	Assessment using essay-type analytical based questions

				economic growth	
				Analyze the specific challenges faced by rural populations in accessing traditional financial services. And evaluate the role and impact of microfinance in overcoming these barriers and its effectiveness as a tool for poverty reduction	
				identify and describe the primary functions of banks and other financial institutions and explain how these institutions contribute to capital formation, efficient resource allocation, and overall economic stability	
				differentiate between the distinct objectives and functions of the IMF, World	

				Bank, and WTO. They will be able to analyze how each organization influences global economic policy and the development of member countries	

Paper: MN-5: Development Economics (I)

Name of the teacher: RUPA GHOSH
Initials: RG

Teaching Objective:
- Introduce students to the basic concepts, scope, and relevance of Development Economics.
- Provide a historical understanding of how development thinking has evolved.
- Differentiate between economic growth and economic development.
- Explain the goals and indicators of development with special reference to HDI.
- Compare the Income Approach and Capability Approach in measuring development.
- Discuss challenges and opportunities faced by developing economies in the global context.

5th Semester Topic-wise Time Plan- Minor

Topics	Hours allotted	Topics (as per curriculum)	Teaching method	Learning outcome (output)	Assessment
1	9	Introduction to Development Economics: Definition and Scope of Development Economics - Historical Perspective of Development Theories (Brief Idea Only) _ Growth Vs. Development - Goals and Indicators of Economic Development HDI (concepts only) _ Income Approach and Capability Approach _ International Comparisons - Challenges and Opportunities in Developing Economies	Discussion, board work, Presentation Uploading of UNDP Reports, HDI Reports, research papers, articles, Quizzes, MCQs in the LMS Use of video lecture, case studies, discussion forums and role plays.	At the end of the course students will be able to: Define Development Economics and explain its scope and importance. Describe the historical evolution of development thought and policies. Distinguish between growth and development with relevant examples. Explain major indicators of development, including the Human Development Index (HDI). Compare the Income Approach and Capability Approach in assessing development. Critically discuss the main challenges and potential opportunities for developing economies.	Internal(College) Assessments and University Tutorial and End Semester Examinations.
Tutorial contact hours: 15 [for revision, doubt clearing, solving problems]					

LORETO COLLEGE, KOLKATA

5th Semester Topic-wise Time Plan
SEPTEMBER 2025- JANUARY 2026

Paper: ECOM-DSCC9
Microeconomics (III)

Name of the teacher: Nilavo Roy
Initials: NR

Teaching Objective:
- To equip students with analytical tools for understanding imperfect product and factor markets.
- To develop the ability to evaluate general equilibrium, efficiency, and welfare in microeconomic contexts.

Topics	Hours allotted	Topics (as per curriculum)	Teaching method	Learning outcome (output)	Assessment
Unit 1	20 hours	Monopoly and barriers to entry—output determination and price rule, measure and sources of monopoly power, social costs of monopoly power including deadweight loss; pricing with market power—first, second, and third-degree price discrimination, intertemporal price discrimination, peak-load pricing, two-part tariff, and multiplant monopoly; monopolistic competition—short-run and long-run equilibrium, excess capacity; oligopoly—oligopoly equilibrium as Nash equilibrium, Cournot, Bertrand, and Stackelberg models, use of isoprofit curves and simple game theoretic interpretation, Sweezy's kinked demand curve model and non-collusive equilibrium, competition versus collusion with the Prisoners' Dilemma, and collusive oligopoly including cartels and price leadership.	• Lecture • Case studies • Infographics • Quizzes • Student presentations • Flipped classroom	(1) Students will be able to analyze monopoly, monopolistic competition, and oligopoly structures with reference to output, pricing, and equilibrium outcomes. (2) Students will learn to evaluate market power through measures, pricing strategies, and their efficiency and welfare implications, including deadweight loss. (3) Students will learn to apply game-theoretic tools and models to interpret firm behaviour in competitive, non-collusive, and collusive oligopoly settings.	Tutorials and Assignments

Unit 2	5 hours	Monopsony, bilateral monopoly in labour market. Monopolistic and monopsonistic exploitation	• Lecture • Case studies • Infographics • Quizzes • Student presentations • Flipped classroom	(1) Students will be able to explain monopsony and its implications for input markets. (2) Students will be able to analyze bilateral monopoly in the labour market. (3) Students will be able to evaluate monopolistic and monopsonistic exploitation.	Tutorials and Assignments
Unit 3	20 hours	General Equilibrium and Economic Efficiency- Exchange, production and welfare, Pareto Optimality, Edgeworth box and contract curve, Pareto efficiency and perfect competition; Reasons for Market failure, Pareto efficiency and market failure (externalities and public goods), property right and Coase Theorem; Markets with asymmetric information-adverse selection, moral hazards, agency problems (concepts only)	• Lecture • Case studies • Infographics • Quizzes • Student presentations • Flipped classroom	(1)Students will explain the concepts of general equilibrium and economic efficiency in exchange and production. (2)They will understand Pareto optimality and use the Edgeworth box and contract curve to analyze Pareto efficiency. (3)Students will analyze the reasons for market failure, including externalities, public goods, and asymmetric information. (4)They will understand the role of property rights and the Coase theorem in addressing market failures.	Tutorials and Assignments

LORETO COLLEGE, KOLKATA

5th Semester Topic-wise Time Plan
SEPTEMBER 2025- JANUARY 2026

Paper: ECOM-DSCC11
Mathematical Economics (II)

Name of the teacher: Nilavo Roy
Initials: NR

Teaching Objectives:
- To develop students' ability to solve and interpret difference and differential equations in economics.
- To train students to apply dynamic mathematical techniques to economic modelling.

Topics	Hours allotted	Topics (as per curriculum)	Teaching method	Learning outcome (output)	Assessment
Unit 3	10 hours	First order linear difference equations and their solutions - Second order linear difference equations and their solutions - Non-linear Difference Equations .Qualitative-Graphic Approach - Applications in Economics .Cobweb model, A model with lagged adjustment, Samuelson's multiplier-accelerator model	• Lecture • Flipped classroom	(1)Students will be able to solve first-order and second-order linear difference equations. (2)They will learn to analyze non-linear difference equations using qualitative-graphic approaches. (3)Students will learn to apply difference equations to economic models such as the Cobweb model, lagged adjustment models, and Samuelson's multiplier-accelerator model.	Tutorials and Assignments
Unit 4	20 hours	First order linear differential equations and their solutions - Second order linear differential equations and their solutions -Solution of linear system of Differential Equations (i) via Eigen values(ii) by substitution -Fixed Point and stability -Qualitative-Graphic Approach-One-variable and Two-variable Phase Diagrams - Linearization of a Non-linear Differential-Equation System and Stability Analysis -Applications in microeconomics and	• Lecture • Flipped classroom	(1) Students will be able to solve first- and second-order linear differential equations and systems of differential equations using appropriate methods. (2) Students will be able to analyze stability through fixed points, phase diagrams, and linearization of non-linear systems. (3) Students will be able to apply differential equation	Tutorials and Assignments

		macroeconomics -Price dynamics in a single market, Multi-market equilibrium and stability, A model with inflation-unemployment interaction, Solow model, ISLM model		techniques to microeconomic and macroeconomic models.	