



ST. XAVIER'S UNIVERSITY, KOLKATA

**SYLLABUS FOR FOUR YEAR
B.A. (HONS) IN ECONOMICS WITH MINOR IN
STATISTICS 2026 ONWARDS
(Semesters VII & VIII)**

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Content

Semester	Paper Type	Paper Name	Page No.
VII	Discipline Specific Core (Major) (Compulsory)	Research Methodology	
	Discipline Specific Core (Major) (Any three)	I. Issues in Macroeconomic Policy II. Open Economy Macroeconomics III. History of Economic Thought IV. Game Theory & Strategic Interactions V. Economics of Institutions VI. Economics of Social Sector VII. Public Policy VIII. Advanced Econometrics	8
	Minor	Statistical Learning	
VIII	Discipline Specific Core (Major) (Compulsory)	Indian Economy: Advanced Issues and Data Analysis	23
	Discipline Specific Core (Major) (Any three in lieu of Dissertation for Economics Honours)	I. Economics of Financial Markets II. Labour Economics III. Advanced issues in International Economics IV. Growth Economics V. Causal Inference VI. Industrial Organization VII. Economics of Inequality and Policy Alternatives VIII. Economics of Discrimination IX. Economics of Crisis X. Time Series and Forecasting	25

	Minor	Machine Learning with Python	
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Sem	Paper Type	Course Title	Full Marks	Pass Marks	CIA MARKS			End-Sem Marks	Credits
					WT	O	AT T		
VI I	Discipline Specific Core (Major) (Compulsory)	Research Methodology	100	40	10	5	5	Theory-40 Practical-30	4
	Discipline Specific Core (Major) (Any three)	I. Issues in Macroeconomic Policy	100	40	20	5	5	70	4
		II. Open Economy Macroeconomics	100	40	20	5	5	70	4
		III. History of Economic Thought	100	40	20	5	5	70	4
		IV. Game Theory & Strategic Interactions	100	40	20	5	5	70	4
		V. Economics of Institutions	100	40	20	5	5	70	4
		VI. Economics of Social Sector	100	40	15	5	5	Theory- 50 Project-25	4
		VII. Public Policy	100	40	20	5	5	70	4
		VIII. Advanced Econometrics	100	40	20	5	5	Theory-40 Practical-30	4
	Minor	Statistical Learning	100	40	5	5	5	Theor	4

								y-35	
								Practical-50	
VI II	Discipline Specific Core (Major) Compulsory	Indian Economy: Advanced Issues & Data Analysis	100	40	Theory-10	5	5	Theory-50	4
					Presentation-10			Field work-20	
	Discipline Specific Core (Major) (Any three in lieu of Dissertation for Economics Honours)	I. Economics of Financial Markets	100	40	20	5	5	70	4
		II. Labour Economics	100	40	20	5	5	70	4
		III. Advanced issues in International Economies	100	40	20	5	5	70	4
		IV. Growth Economics	100	40	20	5	5	70	4
		V. Causal Inference	100	40	20	5	5	Theory-45	4
								Empirical Project -25	
		VI. Industrial Organization	100	40	20	5	5	70	4
		VII. Economics of Inequality and Policy Alternatives	100	40	20	5	5	70	4
		VIII. Economics of Discrimination	100	40	20	5	5	70	4

		IX. Economic s of Crisis	100	40	20	5	5	70	4
		X. Time Series and Forecastin g	100	40	20	5	5	Theor y-35 Practi cal - 35	4
	Minor	Machine Learning with Python	100	40	10	5	5	Theor y-30 Practi cal - 50	4

• **Program Outcomes for B.A. in Economics:**

PO1 Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO2.Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

PO3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.

PO4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.

PO7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Course Name: Research Methodology

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Students will be able to formulate economic research problems (BL1)

CO2: Students will be able to apply appropriate research designs (BL2)

CO3: Students will learn to use mathematical methods & econometric tools for analysis (BL3&4)

CO4: Students will be able to interpret empirical results and evaluate causal relationships using methods like basic experimental approaches. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Foundations of Research	Research Objectives, Theory & Empiricism, Deductive and Inductive logic, Research Question, Definition, Concept, Research Methods & Methodology, Construct, Variable, Measurement Issues, Research Design – Descriptive, Exploratory, Experimental, Analytical, Literature Review – Narrative & Systematic. A short history of scientific method.	06	10%	CO1, CO2
II	Optimization	Equality & Inequality-Constrained Optimization: Karush-Kuhn-Tucker (KKT) conditions; Envelope Theorem; Dynamic Optimization: Discrete-time methods & Continuous-time methods.	24	40%	CO1,CO3
III	Applied Econometrics	Regression Analysis; Omitted variable bias, restricted least	12	20%	CO3,CO4

		square, model selection. Generalised least squares method of estimation and its properties. Model evaluation and other diagnostic tests: Chow test, RESET, Jarque-Bera test of normality of errors and Hausman specification test. Measurement errors: proxy variables and IV estimator. Zellner's SURE procedure; Introduction to nonlinear models			
IV	Practical	Exposure to the data Hands-on training on STATA/R/EVIEWS	18	30%	CO4

Reference:

Blanchet, A. (2025). *Dynamic optimisation for economists*. Toulouse School of Economics.

Blaug, M. (1992). *The methodology of economics: Or, how economists explain*. Cambridge University Press.

Chiang, A. C. (1984). *Fundamental methods of mathematical economics* (3rd ed.). McGraw-Hill.

Chiang, A. C. (1999). *Elements of dynamic optimization*. Waveland Press.

Chow, G. C. (1997). *Dynamic economics: Optimization by the Lagrange method*. Oxford University Press.

Dasgupta, M. (2007). *Research Methodology in Economics: Problems and Issues*. Deep and Deep Publications.

Dixit, A.K. (1990). *Optimization in Economic Theory* (2nd ed.). Oxford University Press.

Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.). McGraw-Hill/Irwin.

Silberberg, E. (1990). *The Structure of Economics: A Mathematical Analysis*. McGraw-Hill Pub. Co.

Simon, C. P., & Blume, L. (1994). *Mathematics for economists*. W. W. Norton & Company.

Weber, M. (2017). *Methodology of social sciences*. Routledge.

Wooldridge, J. M. (2019). *Introductory econometrics: A modern approach* (7th ed.). Cengage Learning.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H	M	L	L	M	L	M
CLO2	H	M	M	L	M	L	M
CLO3	H	L	-	-	L	-	M
CLO4	H	M	L	M	M	L	M
Total	03	1.75	1.33	1.33	1.75	1	02

Total Score: 2.32

Course Name: Issues in Macroeconomic Policy

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course description:

Course Learning Outcomes (CLO's):

CO1: Students will have comprehensive understanding about the objectives and scope of macroeconomic policies from the perspectives of growth, employment and inflation dynamics. (BL1)

CO2: Students will be able to get a thorough and comprehensive understanding about the role money plays in terms of affecting the output or inflation, both in the short-run as well as in the long run. (BL2)

CO3: Students will be able to understand and formulate the policy debate from the perspectives of strategic interactions between policy makers and economic agents; especially expectation formation. (BL3&4)

CO4: Students will be able to understand macroeconomic policy from the perspectives of history as well as from the dimensions of political economy. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO

I	Foundations of Macroeconomic Policy	Objectives and scope of macroeconomic policy; Macroeconomic goals: growth, inflation, employment; Evolution of macroeconomic thought: Keynesian; Kalecki's wage-profit theory and Kaldor's savings perspectives; Monetarist, New Classical, New Keynesian	10	25%	CLO1,CLO2
II	Monetary policy and business cycle	Money, output and inflation; short-run and Long run; Rules vs discretion in policy ;Time inconsistency and credibility; central bank's Policy objectives for emerging market economies	20	25%	CLO1,CLO2,CLO3
III	Fiscal Policy	Fiscal policy and business cycle; public debt and fiscal sustainability; the Ricardian approach to budget deficit; Fiscal policy and exogenous shocks; predictability of tax rate changes; output effect of government purchases, Interest rates and fiscal policy	20	25%	CLO1,CLO2,CLO3
IV	Political Economy of Macroeconomic policy	Macroeconomic debates; the distributional aspects of macroeconomic policy; political economy of macroeconomic policy.	10	25%	CLO3,CLO4

References

Robert J. Barro (1990). Macroeconomic Policy. Harvard University Press.

Olivier Blanchard (2022). Fiscal Policy under Low Interest Rates. MIT Press.

David Romer (1996). Advanced Macroeconomics. McGraw-Hill Education.

Alan S. Blinder (2022). A Monetary and Fiscal History of the United States, 1961–2021. Princeton University Press.

Allan Drazen (2000). Political Economy of Macroeconomics. Princeton University Press.

Wendy Carlin; David Soskice (2024). Macroeconomics: Institutions, Instability, and Inequality. Oxford University Press.

CLO/PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H	L		M	L	L	M
CLO2	H	L		M	L	L	M
CLO3	H	H	M	H	M	L	H
CLO4	H	M	L	H	M	L	H
Total	3	1.75	1.5	2.5	1.5	1	2.5

**H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)*

Total Score: 2.45

Course Name: Open Economy Macroeconomics

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Outcomes (COs):

CO1: Analyze the intertemporal current account in a small open economy by deriving equilibrium conditions, assessing sustainability, and evaluating policy adjustments in response to global imbalances. (BL1)

CO2: Quantify and evaluate the impact of terms of trade, world interest rates, tariffs, and uncertainty on current account dynamics using intertemporal optimization frameworks. (BL2)

CO3: Apply Purchasing Power Parity (PPP) and related models to compute and interpret the real exchange rate and identify its key determinants in an open economy. (BL3&4)

CO4: Apply interest parity conditions and the Mundell–Fleming model to analyze capital mobility and evaluate the effectiveness of fiscal and monetary policy under alternative exchange rate regimes. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	An Intertemporal Theory of the Current Account – I	Global imbalances; Current Account sustainability; Equilibrium in a small open economy; Policy adjustments	18	30%	CO1
II	An Intertemporal Theory of the Current Account – II	Terms of Trade, the World Interest Rate, Tariffs, and the Current Account; Uncertainty and the Current Account; Dynamics of small open economies	18	30%	CO2
III	The Real Exchange Rate	The Real Exchange Rate and Purchasing Power Parity; Determinants of the Real Exchange Rate;	12	20%	CO3
IV	International Capital Mobility	Covered and Uncovered Interest Parity condition; Real Interest Rate Parity; Mundell-Fleming model	12	20%	CO4

Reference:

Ghosh, C., & Ghosh, A. (2016). *Indian Economy: A macro-theoretic analysis*. PHI Learning Pvt. Ltd.

Obstfeld, M., & Rogoff, K. (1996). *Foundations of international macroeconomics*. MIT Press.

Schmitt-Grohé, S., Uribe, M., & Woodford, M. (2022). *International macroeconomics: A modern approach*. Princeton University Press.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H		M				M
CLO2	H	M		M			M
CLO3	H	M			L		M
CLO4	H		M	M	M		M
Total	03	02	02	02	1.5		02

*H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)

CO Score: 2.08

Course Name: History of Economic Thought

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VII

Nature of the Course: Major

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Students will be able to understand the foundations of Classical Political Economy. (BL1)

CO2: Students will be able to examine the rise of neoclassical economics, enabling students to critically engage with how economic ideas shape policy and development trajectories. (BL2)

CO3: Students will be able to analyse Keynesian and post-Keynesian contributions, alongside a contextual exploration of Indian economic thought. (BL3&4)

CO4: Students will be able to link economic theory with historical and institutional contexts.(BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks Allotted	CLO
I	Classical Political Economy	Value, Distribution, Growth, Surplus, Crises: Adam Smith, David Ricardo, Thomas Malthus, Karl Marx.	15	25%	CO1
II	The Rise of Neoclassical Economics, Crisis & Critique	Marginal utility, equilibrium, welfare, limits of markets: Jevons, Menger, Walras, Marshall, Pigou, Veblen, Hayek, Friedman, Neumann, & Arrow	15	25%	CO2
III	Keynesian Neo-classical Synthesis & Post-Keynesian Economics	Great Depression, Effective demand, Investment, Uncertainty, IS-LM, fiscal policy: Keynes, Joan Robinson, Kaldor, Kalecki,	15	25%	CO2,CO3

		Schumpeter, Hicks, Samuelson & Romer.			
IV	Indian Economic Thought from Development Perspective	Planning, development, poverty, human capabilities: Naoroji, Ranade, Nehru, Ambedkar, Mahalanobis, Sukhamoy Chakraborty, Amartya Sen, Rosenstein Roden, Hirschman, & Krugman.	15	25%	CO2,CO3,CO4

Reference:

Backhaus, J. G. (2012). *Handbook of the history of economic thought*. Springer.

Dasgupta, A. K. (2002). *A history of Indian economic thought*. Routledge.

Robbins, L. (1968). *Theory of economic development in the history of economic thought*. Springer.

Robbins, L. (2000). *A history of economic thought: the LSE lectures*. Princeton University Press.

Roncaglia, A. (2006). *The wealth of ideas: a history of economic thought*. Cambridge University Press.

Rubin, I. I. (1987). *History of economic Thought*. Pluto Books.

Thomas, A. M. (2023). Recent histories of Indian economic thought. *The History of Economic Thought*, 64(2), 19-44.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	M	M	L	L	L	-	M
CLO2	H	M	L	M	M	L	M
CLO3	H	M	M	M	M	L	M
CLO4	H	M	L	H	M	L	M
Total	2.75	2	1.25	2	1.75	01	02

Total Score: 2.32

Course Name: Game Theory & Strategic Interactions

Class: B.A. in Economics

Course Code: Credit: 4

Semester: VII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: The students will learn how to model multi-person decision-making in an interactive setting. (BL1)

CO2: They will understand how to formulate different real-life situations as games and learn to predict the optimal strategies of players and how the players can exploit strategic situations for the benefit of their own. (BL2)

CO3: Students will be able to evaluate decision-making under incomplete information using Bayesian Nash equilibrium, auctions, and moral hazard frameworks. (BL3&4)

CO4: They will be able to analyze finitely and infinitely repeated games to understand cooperation, credibility, and long-run strategic behavior. (BL5&6)

Course Content

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CL O
I	Simultaneous move games with complete information	The normal form; dominant and dominated strategies; dominance solvability; mixed strategies; Nash equilibrium; symmetric single population games; applications	21	35%	CO1 , CO2
II	Extensive form games with perfect information	The game tree; strategies; subgame perfection; backward induction in finite games; commitment; bargaining; other applications	21	35%	CO2 , CO3
III	Simultaneous move games with incomplete information	Strategies; Bayesian Nash equilibrium; applications	9	15%	CO3 , CO4
IV	Extensive form games with imperfect	Strategies; beliefs and sequential equilibrium;	9	15%	CO2 ,

	information	applications			CO3 , CO4
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References:

Dutta, P. K. (1999). *Strategies and games: theory and practice*. MIT press.

Fudenberg, D., & Tirole, J. (2026). *Game theory*. MIT press.

Gibbons, R. S. (1992). *Game theory for applied economists*. Princeton University Press.

Osborne, M. J. (2004). *An introduction to game theory* (Vol. 3, No. 3). New York: Oxford university press.

Tadelis, S. (2013). *Game theory: an introduction*. Princeton university press.

CLO/PL O	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H						H
CLO2	H						H
CLO3	H						H
CLO4	H						H
Total	03						03

Total Score:3

Course Name: Economics of Institutions

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes (CLO's):

CO1: Students will have a comprehensive idea about the definition of the institution and how institution affects economic outcomes. (BL1)

CO2: Students will be able to get a thorough and comprehensive understanding about the institutions and economic outcome from the point of interaction between individual and organization with institutions from the behavioral point of view. (BL2)

CO3: Students will be able to understand the functionalities of some of the broader macroeconomic institutions and their impact on economic outcome; technology adoption and economic growth. (BL3&4)

CO4: Students will be able to understand the dimensions of political institutions and different theories of institutional changes. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	What is Institutions?	Institutions as the rule of the game; The behavioral assumption on institutions; Different dimensions of institutions and economic activity; some historical account of institutions and it's impact on economic outcomes.	15	25%	CLO1,CLO2
II	Institutions and Behavioral Economics	Individuals and institutions; Institutions and organizations; Market as Institutions; Property rights; degree of market imperfections;	15	25%	CLO1,CLO2,CLO3
III	Macroeconomic Institutions; technology and growth	Banking and property rights; capital market; Technological change with alternative institutions; technology and institutional change; labour institutions	15	25%	CLO1,CLO2,CLO3
IV	Political Institutions and institutional changes	Median voter theorem; representative government and interest groups; theories of institutional changes	15	25%	CLO3,CLO4

References

- Laffont, J. J., & Tirole, J. (1993). *A theory of incentives in procurement and regulation*. MIT press.
- North, D. C. (1990). Institutions, institutional change and economic performance. *Cambridge Univ Pr*.
- Schmid, A. A. (2008). *Conflict and cooperation: institutional and behavioral economics*. John Wiley & Sons.
- Olson Jr, M. (1971). *The Logic of Collective Action: Public Goods and the Theory of Groups, with a new preface and appendix* (Vol. 124). harvard university press.
- Rutherford, M. (1996). *Institutions in economics: the old and the new institutionalism*. Cambridge University Press.

CLO/PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H	L		M	L	L	M
CLO2	H	M	L	M	M	L	M
CLO3	H	L		M	L	M	M
CLO4	H	H	M	H	H	L	H
Total	3	1.75	1.5	2.25	1.75	1.25	2.25

*H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)

Total Score: 2.41

Course Name: Economics of Social Sector

Class: B.A. in Economics

Course Code: Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Explain the role of the social sector and justify state intervention using the concept of merit goods. (BL1)

CO2: Analyze market failures such as externalities and information asymmetry (Adverse Selection, Moral Hazard) in social sector outcomes. (BL2)

CO3: Apply welfare economics and the Capability Approach to evaluate development and well-being. (BL3&4)

CO4: Assess and Evaluate human capital formation and gender dynamics using theoretical frameworks. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Economic Theory of Social Sector	Concept and scope of social sectors; Human development and capability approach; Market failure in social sectors: public goods, externalities, asymmetric information Role of institutions and governance; State vs market vs community provision	15	25%	CO1,CO2
II	Education Economics	Human capital theory; Inequality in uptake and outcomes and the role of affirmative action; Role of gender, social norms and agency; Child education vs child labour	15	25%	CO2,CO3
III	Health Economics	Measurements of Health; Morbidity and Mortality; Burden of Diseases; Concepts of DALY and QALY; Epidemiology and Morbidity Transition; Demand for health and healthcare; Health production function; Health insurance and market failure; Public vs private provisioning	15	25%	CO3,CO4
IV	Project	Project using Data source: NSSO, NFH, ASER Impact evaluation methods (RCTs, PSM)	15	25%	CO3,CO4

Reference:

Deaton, A. (2013). *The great escape: Health, wealth, and the origins of inequality*. Princeton University Press.

Drèze, J., & Sen, A. (2013). *An uncertain glory: India and its contradictions*. Princeton University Press.

Mincer, J. (1974). *Schooling, experience, and earnings*. Columbia University Press.

Sen, A. (1999). *Development as freedom*. Oxford University Press.

ASER Centre (Annual), *ASER Reports*.

Ministry of Health and Family Welfare – *NFHS Reports*

Ministry of Statistics and Programme Implementation – *NSSO Reports*

World Health Organization (Annual), *World Health Reports*.

CLO-PLO Mapping

CLO/PLO	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
CLO1	M		H			H	
CLO2	M		H				
CLO3	M		H			H	
CLO4	M		H				
Total	2		3			3	

Total Score: 2.7

Course Name: Public Policy

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Students will be able to explain the economic rationale for government intervention (BL1)

CO2: Students will be able apply welfare economics concepts to policy analysis (BL2)

CO3: Students will be able identify and analyse different types of market failures (BL3&4)

CO4: Students will be able use basic empirical methods for policy evaluation to critically assess real-world public policies (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO

I	Introduction to Economics of Public Policy	Definition and Scope of Public Policy; Market Failures and Government Intervention; Property Rights and Market based solutions to externality	15	25%	CO1, CO2, CO3
II	Public Finance	Government intervention tools; Theory of fiscal federalism; Principles governing intergovernmental transfers; Theory of Public expenditure; Process of budget making in Three layers of government; Analysis of budget linking it to policy making	15	25%	CO1, CO4
III	Political Economy of Public Policy	Public Choice theory; Voting and collective decision-making; Rent-seeking behaviour;	15	25%	CO1, CO4
IV	Empirical Issues in Public Policy	Policy evaluation techniques - cost-benefit analysis; cost-effectiveness analysis; Randomized controlled trials (RCTs); Quasi-experimental methods; Difference-in-differences Evidence-based policymaking - Analysis of different policies in India - health policy, education policy, environmental policy, labour market policy, international trade policy; Impact of specific policies on primary, secondary, tertiary sectors in India Ethical and practical issues in evaluation	15	25%	CO1, CO4

Reference:

- Atkinson, A.B. & Stiglitz, J.E., (2015), *Lectures on Public Economics Updated Edition*, Economics Books, Princeton University Press
- Banerjee, A. V., & Duflo, E. (2012). *Poor economics: A radical rethinking of the way to fight global poverty*. PublicAffairs.
- Chakrabarti, R. & Sanyal, K. (2017), *Public Policy in India*, Oxford University Press
- Gruber, J. (2016), *Public Finance and Public Policy*, New York: Worth Publishers

Leach, J, (2004), *A Course in Public Economics*, Cambridge University Press

Mueller, D.C., (2003), *Public Choice III*, Cambridge University Press

Musgrave & Musgrave, (1989) *Public Finance in Theory and Practice*, McGraw-Hill Book Co.

Rosen, H.S. & Gayer, T., (2008) *Public Finance*, McGraw-Hill, Boston

Roemer, J.E., 2009. *Political Competition: Theory and Applications*, Harvard University Press

Salanié, B., 2000. *Microeconomics of Market Failures*, MIT Press Books, The MIT Press, edition 1, volume 1

Stiglitz, J. E. & Rosengard, J.K, (2015) *Economics of the Public Sector*, W.W.Norton & Co., edition 4

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H			M			M
CLO2	H			M			M
CLO3	H			M			M
CLO4	H			M			M
Total	03			02			02

*H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)

Total Score: 2.8

Course Name: Advanced Econometrics

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Students will be able to explain and critically assess the assumptions, properties, and limitations of econometric models beyond the classical linear regression framework. (BL1)

CO2: Students will be able to apply advanced econometric techniques (such as logit/probit, panel data models, and IV estimation) to analyze economic relationships using real-world data. (BL2)

CO3: Students will be able to identify and correct econometric issues such as heteroskedasticity, autocorrelation, multicollinearity, and endogeneity. (BL3&4)

CO4: Students will be able to interpret empirical results and evaluate causal relationships using methods like basic experimental approaches. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Simultaneous Equation System	Sources of endogeneity Omitted variable bias Instrumental Variables (IV) estimation Two-Stage Least Squares (2SLS)	9	15%	CO1, CO2, CO3, CO4
II	Limited Dependent Variable Models	Binary choice models: Logit and Probit Interpretation of coefficients and marginal effects Maximum Likelihood Estimation (MLE) Model comparison	12	20%	CO1, CO2, CO3, CO4
III	Introduction to Time series and Panel data analysis	Introduction to Time Series data, Stationarity and basic concepts, Introduction to basic Time Series models, Structure of panel data, Pooled versus Panel data, Fixed Effect, Random Effect	9	15%	CO1, CO2, CO3, CO4
IV	Practical	Exposure to the data Hands-on training on STATA/R	30	50%	CO1, CO2, CO3, CO4

Reference:

Christopher Dougherty (2016), *Introduction to Econometrics*, 5th Edition, Oxford University Press.

Damodar Gujarati & Porter, D. (2009), *Basic Econometrics*, 5th Edition, McGraw-Hill.

James Stock & Watson, M. (2020), *Introduction to Econometrics*, 4th Edition, Pearson.

Jeffrey Wooldridge (2019), *Introductory Econometrics: A Modern Approach*, 7th Edition, Cengage Learning.

Joshua Angrist & Pischke, J.-S. (2009), *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press.

Panchanan Das (2019), *Econometrics in Theory and Practice*, Springer.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H						M

CLO2	H						M
CLO3	H						M
CLO4	H						M
Total	03						02

Total Score: 2.5

Course Name: Statistical Learning

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VII

Nature of the Course: Minor

No. of Lecture hours: 20

No. of Practical hours: 25

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Explain the fundamental concepts of statistical learning.

CO2: Apply regression models for analyzing economic data and perform model selection.

CO3: Analyze high-dimensional data using shrinkage methods and dimension reduction techniques.

CO4: Apply classification and clustering techniques to solve real-world economic problems.

CO5: Evaluate and compare statistical models.

Module No.	Module Name	Chapter Topic	No of Lecture hours	Marks allotted	CO
I	Introduction	Supervised and unsupervised learning. The curse of dimensionality. Bias-variance trade-off. Overfitting and underfitting.	3	5%	CO1

References:

II	Regression models	Linear and logistic regression. Generalized Linear Models and model selections.	15	25%	CO2
III	Regression for High-dimensional data	Shrinkage methods: Ridge Regression and LASSO. Dimension reduction techniques and multicollinearity.	15	25%	CO3
IV	Clustering methods	K-Means and Hierarchical clustering.	9	15%	CO4
V	Classification and Tree-based methods	Discriminant analysis, K-Nearest Neighbor method (KNN), Classification and Regression Trees (CART)	9	15%	CO4
VI	Model Evaluation and Resampling methods	Cross-validation, Bootstrapping, Confusion matrix, ROC curve	9	15%	CO5

Friedman, B. L., & others. (1984). *Classification and regression trees*. Wadsworth.

Bishop, C. M. (2006). *Pattern recognition and machine learning*. Springer.

Friedman, J., Hastie, T., & Tibshirani, R. (2009). *The elements of statistical learning: Data mining, inference, and prediction* (2nd ed.). Springer.

Johnson, R. A., & Wichern, D. W. (2014). *Applied multivariate statistical analysis* (6th ed.). Pearson.

James, G., Witten, D., Hastie, T., & Tibshirani, R. (2021). *An introduction to statistical learning: With applications in R* (2nd ed.). Springer.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H						M
CLO2	H						M
CLO3	H						M
CLO4	H						M
Total	03						02

Total Score: 2.5

Course Name: Indian Economy: Advanced Issues & Data Analysis

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Students will be able to identify, assemble, and analyze quantitative Indian economic data. (BL1)

CO2: Students will develop an understanding of trends in sectors of the economy. (BL2)

CO3: Students will be able to critically evaluate the impact of fiscal & monetary policies of Indian government policies. (BL3&4)

CO4: Students will apply statistical methods and econometric modeling to study economic relationships and evaluate the effectiveness of development policies. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours Allotted	Marks allotted	CLO
I	Databases on Indian Economy	Government and Institutional Databases, Private Analytical Databases, Specialized Agricultural and Industry Databases, International Data Sources for Indian Economy	06	10%	CO1,CO2,CO4
II	Demography and Human Development in India	Stages of demographic transition and Population growth, Demographic dividend; Education and human capital formation in India	18	30%	CO1,CO2,CO4

III	Macroeconomic Performance	Structural Breaks in Growth; Fiscal & Monetary Policy; Sectoral Growth & Development; External Sector	24	40%	CO1,CO2,CO3 , CO4
IV	Field-work or Data Analysis	Sample & Survey Design, Report writing based on field-work or data analysis.	12	20%	CO1,CO2,CO3 , CO4

Reference:

Balakrishnan, P. (2015). Macroeconomic Reversal in India: A Structuralist View. *Review of Development and Change*, 20(1), 23-42.

Balakrishnan, P., & Parameswaran, M. (2022). What lowered inflation in India: monetary policy or commodity prices?. *Indian Economic Review*, 57(1), 97-111.

Dasgupta, Z., & Chowdhury, I. (2023). Monetary policy in the midst of cost-push inflation. *Economic & Political Weekly*, 58(22), 42-50.

Das, S. (2004). Effect of fiscal deficit on real interest rates. *Economic and Political Weekly*, 1299-1310.

Das, S. (2010). On financing the fiscal deficit and availability of loanable funds in India. *Economic and Political Weekly*, 67-75.

Drèze, J., & Sen, A. (2013). *An uncertain glory: India and its contradictions*. Princeton, NJ: Princeton University Press.

Drèze, J., & Murthi, M. (2001). Fertility, education, and development: Evidence from India. *Population and Development Review*, 27(1), 33–63.

Dyson, T. (2010). *Population and development: The demographic transition*. London, UK: Zed Books.

Ghate, C., Le, Q. V., & Zak, P. J. (2003). Optimal fiscal policy in an economy facing sociopolitical instability. *Review of Development Economics*, 7(4), 583-598.

Government of India. (Various years). *National Family Health Survey (NFHS)*. Mumbai, India: International Institute for Population Sciences (IIPS).

Government of India. (Various years). *National Sample Survey (NSS) reports*. New Delhi, India: NSSO.

James, K. S. (2011). India's demographic change: Opportunities and challenges. *Science*, 333(6042), 576–580.

James, K. S. (2011). India's demographic change: Opportunities and challenges. *Science*, 333(6042), 576–580.

Kulkarni, K. G., & Erickson, E. L. (1995). Is Crowding Out Hypothesis Evident in LDCs?: A Case of India. *The Indian Economic Journal*, 43(1), 116-126.

Muralidharan, K. (2013). Priorities for primary education policy in India's 12th Five-Year Plan. *India Policy Forum*, 9(1), 1–46.

Munshi, K., & Rosenzweig, M. (2006). Traditional institutions meet the modern world: Caste, gender, and schooling choice in a globalizing economy. *American Economic Review*, 96(4), 1225–1252.

Nayyar, D. (2006). India's unfinished journey transforming growth into development. *Modern Asian Studies*, 40(3), 797-832.

Nayyar, D. (2017). Economic liberalisation in India: Then and now. *Economic and Political Weekly*, 41-48.

Reher, D. S. (2004). The demographic transition revisited as a global process. *Population, Space and Place*, 10(1), 19–41.

Veeramani, C. (2012). Anatomy of India's merchandise export growth, 1993-94 to 2010-11. *Economic and Political Weekly*, 94-104.

Veeramani, C., & Basu, A. (2025). Why Is Labor Receiving a Declining Share of Income in India? Role of Trade and Market Share Reallocation. *Asian Economic Papers*, 24(3), 1-31.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H	M	L	M	M	L	M
CLO2	H	M	L	M	L	L	M
CLO3	H	M	M	H	H	L	M
CLO4	H	M	M	H	M	L	H
Total	03	2	1.5	2.5	02	01	2.25

Total Score: 2.76

Course Name: Economics of Financial Markets

Class: B.A. in Economics

Course Code: Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Students will be able to explain and critically evaluate the theoretical foundations of financial markets, including asset pricing models, market efficiency, and the role of information. (BL1)

CO2: Students will be able to apply quantitative tools and models to analyze financial assets and investment decisions.(BL2)

CO3: Students will be able to interpret financial data and empirical evidence, including market trends, anomalies, and econometric results related to stock pricing. (BL3&4)

CO4: Students will be able to assess financial market regulations, institutional frameworks, and real-world issues (e.g., crises, behavioral biases, and financial inclusion) with specific reference to emerging markets like India. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Introduction to Financial Markets	Role and functions of financial markets; Financial system: institutions, instruments, and markets; Money market vs capital market; Financial intermediation and transaction costs; Structure of Indian financial system	15	25%	CO1,CO2
II	Market Efficiency and Behavioral Finance	Efficient Market Hypothesis (EMH): weak, semi-strong, strong forms Rational expectations Empirical tests of market efficiency Behavioral finance: biases, heuristics, anomalies Limits to arbitrage	15	25%	CO2,CO3
III	Financial Securities	Bond pricing, spot rates, discount factors; Stock pricing, dividend discount model; Forward and futures contracts; No-arbitrage pricing Options: calls and puts; Black–Scholes model	15	25%	CO3,CO4
IV	Financial Regulation and Stability	Role of central banks; Financial crises and contagion; Regulation of financial markets;	15	25%	CO2,CO3,CO4

		Basel norms; Indian context: SEBI, RBI. Comparative analysis of regulations in India with global standards			
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Reference:

Bodie, Z., Kane, A., & Marcus, A. J. (2021). *Investments* (12th ed.). McGraw-Hill.

Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *Journal of Finance*, 25(2), 383–417.

Hull, J. C. (2018). *Options, futures, and other derivatives* (10th ed.). Pearson.

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Mishkin, F. S. (2022). *The economics of money, banking, and financial markets* (13th ed.). Pearson.

Reserve Bank of India (Annual), *Report on Currency and Finance*.

SEBI (Annual), *Handbook of Statistics on Indian Securities Market*.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H		M			H	
CLO2	H						
CLO3						M	
CLO4	H		M			M	
Total	3		2			2.3	

*H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)

Total score: 2.21

Course Name: Labour Economics

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes (CLO's):

CO1: Students will be able to understand how labour market works through mainstream economic structure; the understanding of labour demand and supply resulting from households and firm's optimization. (BL1)

CO2: Students will be able to understand how unemployment exists as a market equilibrium and steady state solution. (BL2)

CO3: Students will be able to understand the fundamental reasons of the existence of labour market institutions; the possible impact of different dimensions of labour market institutions on labour market outcomes. (BL3&4)

CO4: Students will be able to analyze the ongoing debate about the labour market institutions in India from the perspectives of international labour market institutions. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Labour Market: A closer looks	Some stylized facts; some standard Macroeconomic models for the labour markets; Wage share and inequality; Real wage-rigidities; Labour Demand function: Neo-classical approach to labour demand function; Labour supply: Labour supply from Household decision; some of the empirical results related to household decisions about labour supply	15	25%	CLO1,CLO2
II	Unemployment	Unemployment as steady-state equilibrium; The Beveridge-curve; Out of steady-states dynamics; review of empirical literature on aggregate matching function and Beveridge curve;	15	25%	CLO1,CLO2

		models with endogenous job destruction and productivity shocks; notes on literature.			
III	Labour market institutions and policy	Why labour market Institution exist?. International perspectives of labour market institutions; active public policy and it's evaluation; employment subsidies; economic analysis of minimum wage and employment protection legislations; empirical findings of labour market institutions and there economic impacts.	15	25%	CLO1,CLO2,CLO3
IV	Labour market flexibility debate in India	Impact of labour regulation on Indian labour market; the flexibility debate; Informalization; the Gig economy	15	25%	CLO2,CLO3

References

Pierre Cahuc; Andre Zylberberg (2004). Labor Economics. MIT Press.

Daniel S. Hamermesh (1996). Labour Demand. Princeton University Press.

Ben J. Heijdra; F. Van der Ploeg (). The Foundations of Modern Macroeconomics. Oxford University Press.

Christopher A. Pissarides (2000). Equilibrium Unemployment Theory. MIT Press.

Jordi Galí (2011). Unemployment Fluctuations and Stabilization Policies: A New Keynesian Perspective. MIT Press.

Janine Berg et al. (2008). In Defence of Labour Market Institutions. Palgrave Macmillan UK.

Alison L. Booth (1995). The Economics of the Trade Union. Cambridge University Press.

Timothy Besley; Robin Burgess (2004). Can Labor Regulation Hinder Economic Performance? Evidence from India. Quarterly Journal of Economics, 119(1), 91-134.

Aditya Bhattacharjea (2006). Labour Market Regulation and Industrial Performance in India: A Critical Review of the Empirical Evidence. Indian Journal of Labour Economics, 49(2), 211-232.

NITI Aayog (2022). India's Booming Gig Economy: Perspectives and Recommendations on the Future of Work.

CLO/PLO Mapping

CLO \ PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CLO1	H	L		L			M
CLO2	H	L		L			M
CLO3	H	M	L	H	M	L	M
CLO4	H	M	L	H	M	L	H
Total	3	1.5	1	2	2	1	2.25

**H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)*

Total score: 2.07

Course Name: Advanced Issues in International Economics

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Deepen understanding of modern trade theories and empirical tools (BL1)

CO2: Examine trade policy and institutional frameworks (BL2)

CO3: Analyse global production systems and factor mobility (BL3&4)

CO4: Critically assess globalization and contemporary trade issues (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Advanced Trade Theories	Intra-industry trade in identical and differentiated products, firm heterogeneity and export decision	15	25%	CO1, CO2
II	Trade Policy and Political Economy	Tariffs vs quotas under imperfect competition; Strategic trade policy Political economy of protectionism; WTO framework and dispute settlement mechanism; Regional trade agreements (RTAs), FTAs, and customs unions	15	25%	CO1, CO2, CO4
III	Trade, Factor Mobility & Growth	International labor migration (theory and welfare effects); Capital mobility and FDI (horizontal vs vertical FDI); Multinational corporations and global value chains (GVCs); Trade, factor mobility and immiserizing growth; Structuralist theories: foreign exchange, savings and growth; North-South trade, TOT and growth;	15	25%	CO1, CO3, CO4
IV	Trade, Inequality, and Development	Trade and income distribution; Trade and wage inequality (developed vs developing countries); Trade liberalization and poverty; Technology transfer and learning-by-exporting; Role of trade in structural transformation	15	25%	CO1, CO2, CO3, CO4

Reference:

Acharyya, R., *International Economics: An Introduction to Theory and Policy*, Oxford University Press, 2022

Acharyya, R., Kar, S., *International Trade and Economic Development*, Oxford University Press, 2014

Bhagwati, J., Panagariya, A. and Srinivasan, T.N., *Lectures on International Trade*, MIT Press (1998)

Caves, R., Frankel, J and Jones, R.W., *World Trades & Payments (9th Ed)*, Pearson Education (2000)

Feenstra, R., *Advanced International Trade: Theory and Evidence*, Princeton University Press, (2004)

Gandolfo, G. *International Trade Theory and Policy*, Springer, 2014

Krugman, P.R., Obstfeld, M. and Melitz, M. J., *International Economics: Theory and Policy*, Pearson Education, 2015.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H			M			M
CLO2	H			M			M
CLO3	H			M			M
CLO4	H			M			M
Total	03			02			02

*H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)

Total Score: 2.6

Course Name: Growth Economics

Class: B.A. in Economics

Course Code: Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: To introduce theoretical and empirical foundations of economic growth (BL1)

CO2: To understand long-run growth dynamics and policy implications (BL2)

CO3: To analyse cross-country growth differences and inequality (BL3&4)

CO4: To connect growth theory with development and structural change (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
1	Fundamentals of Growth	Introduction to Economic Growth;	12	20%	CLO1, CLO2

		Measurement of growth (GDP, per capita income); Cross-country differences in income; Stylized facts of growth A narrative on India's economic growth; Empirics: Cross-country differences in economic performance.			
2	Classical and Structuralist Growth Models	Harrod–Domar Model; Kaldorian Growth Models; Kaleckian Growth Models; Neo-Classical Growth Models: Introduction	18	30%	CLO2
3	Neoclassical Growth Models	Solow Growth Model; Solow Growth Accounting; Models with Overlapping Generations (OLG)	18	30%	CLO2, CLO3
4	Modern Growth Theory	Endogenous Growth Models; Human Capital and Economic Growth; Institutions and Economic Growth; Growth with heterogeneous agents; Structural transformation and sectoral shifts	12	20%	CLO4

References:

- Acemoglu, D. (2009). *Introduction to modern economic growth*. Princeton University Press.
- Aghion, P., & Howitt, P. W. (2008). *The economics of growth*. MIT Press.
- Barro, R. J., & Sala-i-Martin, X. I. (1998). *Economic growth*. MIT Press.
- Romer, D. (2018). *Advanced macroeconomics* (5th ed.). McGraw-Hill Education.
- Sen, A. (1970). *Growth economics: Selected readings*. Penguin.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
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CLO1	H		M				
CLO2		H					L
CLO3	H				L		
CLO4	H	L	M	M	M		M
Total	03	02.5	02	02	1.5		1.5

**H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)*

Total Score: 2.02

Course Name: Causal Inference

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Outcomes (COs):

CO1: Explain and apply the fundamental concepts of causal inference, including the potential outcomes framework, selection bias, identification problem, and graphical tools such as DAGs. (BL1)

CO2: Analyze causal relationships using econometric methods, particularly regression and instrumental variable techniques, and interpret estimates such as LATE. (BL2)

CO3: Evaluate policy interventions using quasi-experimental designs, including Difference-in-Differences and Regression Discontinuity, while assessing underlying assumptions. (BL3&4)

CO4: Conduct an empirical causal analysis using statistical software, including data handling, model estimation, and interpretation of results in a policy-relevant context. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Foundations of Causal Inference	Correlation vs Causality; Potential Outcome Framework; Directed Acyclic Graphs (DAG); Regression and Causality; Selection Bias and Identification Problem	25	40	CO1

II	Instrumental Variables	Endogeneity and simultaneity; 2SLS, IV and Causality; Local Average Treatment Effect (LATE)	6	15	CO2
III	Regression Discontinuity and Difference-in-Difference	Basic concept of RDD design with graph; Identification at cutoff; Estimation and Challenges DiD estimation; Parallel trend assumption; Importance of Placebo	14	20	CO3
IV	Empirical Project	Empirical project on Causal Inference using statistical software like Stata/R/Eviews	15	25	CO4

Reference:

Angrist, J. D., & Pischke, J. S. (2009). *Mostly Harmless Econometrics: An empiricist's companion*. Princeton University Press.

Angrist, J. D., & Pischke, J. S. (2014). *Mastering'metrics: The path from cause to effect*. Princeton university press.

Cunningham, S. (2021). *Causal inference: The mixtape*. Yale University Press.

Huntington-Klein, N. (2021). *The effect: An introduction to research design and causality*. Chapman and Hall/CRC.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H		M				M
CLO2		H		M			L
CLO3	H	M			L		H
CLO4	H	L	M	M	M		M
Total	03	02	02	02	1.5		02

*H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)

CO Score: 2.08

Course Name: Industrial Organisation

Class: B.A. in Economics

Course Code: Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: To provide a foundation for analyzing firm behavior and strategic interactions. (BL1)

CO2: To analyze and evaluate models of competitive, oligopolistic, and monopoly markets. (BL2)

CO3: To analyze and evaluate theories related to mergers and acquisitions, vertical Relation and vertical restraint. (BL3&4)

CO4: To analyze and evaluate how firms' structure and conduct affect economic welfare and how these results feedback to effect structure and conduct. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Imperfectly Competitive Markets	Imperfectly Competitive Product Markets, Differentiation, Bertrand, Cournot, Hotelling, Salop, Monopolistic Competition	21	35%	CO1
II	Dynamic Models	Dynamic Models of Oligopoly, Cartels, Collusion and Entry Deterrence, Anti-trust	21	35%	CO2
III	Vertical Relation and Vertical Restraint	Vertical Relation and Vertical Restraint; Double Marginalization, Successive Oligopoly, Raising Rival's Cost, Resale Price Maintenance (RPM), Exclusive Dealing	12	20%	CO3
IV	Mergers and Acquisitions	Mergers and Acquisitions, Horizontal and Vertical Integration	6	10%	CO4

References:

Basu, K. (2006). *Industrial organization theory and development economics*.

Cabral, L. M. (2017). *Introduction to industrial organization*. MIT press.

Shy, O. (1996). *Industrial organization: theory and applications*. MIT press.

Tirole, J. (1988). *The theory of industrial organization*. MIT press.

CO/PO Mapping

CLO/PL O	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H						H
CLO2	H						H
CLO3	H						H
CLO4	H						H
Total	3						3

Total Score: 3

Course Name: Economics of Inequality & Policy Alternative

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Minor

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Students will be able to conceptualize & measure economic inequality across dimensions such as income, wealth, caste, gender, and region. (BL1)

CO2: Students will know Indian debates and global perspectives on economic inequality. (BL2)

CO3: They will learn to combine theoretical frameworks, empirical evidence, and policy debates. (BL3&4)

CO4: Students will alternative policy approaches to reducing inequality, including redistributive policies, welfare programs, and institutional reforms. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks Allotted	CO
I	Conceptual Foundations of Inequality	Definitions and measurement of inequality: Income vs wealth inequality; Kuznets curve and growth-inequality debate; Capabilities and welfare approach	15	25%	CO1,CO3
II	Inequality in India	Trends in income and wealth inequality; Caste, gender and structural inequality; Regional disparities; Informality and labour markets; Wage inequality	15	25%	CO2,CO3
III	Global Inequality	Inequality across countries; Globalization and	15	25%	CO1,CO4

		inequality; Role of technology; Migration and inequality; Racial Inequality.			
IV	Policy Alternatives & Contemporary Debates	Taxation and redistribution; Universal Basic Income; Public goods and welfare state; Affirmative action and social policy; Inequality and democracy; Climate change and inequality; Digital economy; Future of work	15	25%	CO1,CO3,CO4

Reference:

Ambedkar, B. R. (2022). *Castes in India: Their mechanism, genesis, and development*. DigiCat.

Alvaredo, F., Chancel, L., Piketty, T., Saez, E., & Zucman, G. (Eds.). (2018). *World inequality report 2018*. Harvard University Press.

Atkinson, A. B. (1970). On the measurement of inequality. *Journal of economic theory*, 2(3), 244-263.

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Bollé, P. (2008). Inequalities and financial globalization: A timely report. *International Labour Review*, 147(4), 433-438.

Chancel, L., Piketty, T., Saez, E., & Zucman, G. (Eds.). (2022). *World inequality report 2022*. Harvard University Press.

Deaton, A., & Dreze, J. (2002). Poverty and inequality in India: a re-examination. *Economic and political weekly*, 3729-3748.

Dreze, J., & Sen, A. (2002). *India: Development and participation*. OUP Oxford.

Drèze, J., & Sen, A. (2013). *An uncertain glory: India and its contradictions*. Princeton University Press.

Folbre, N., & Hartmann, H. (1988). Ideology and gender in economic theory. *The consequences of economic rhetoric*, 184.

Folbre, N. R. (2016). A patriarchal mode of production. In *Alternatives to economic orthodoxy* (pp. 323-338). Routledge.

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CO-PO Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	H	M	L	M	M	L	M
CO2	H	M	M	H	M	L	M
CO3	H	M	M	H	H	L	M
CO4	H	M	M	H	H	M	H
Total	03	02	1.75	2.75	2.5	1.25	2.25

Total Score: 2.65

Course Name: Economics of Discrimination

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Minor

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Outcomes:

CO1: Students will be able to examine discrimination as an economic and social phenomenon. (BL1)

CO2: They will learn to comprehend discrimination through theoretical, empirical, and institutional lenses (BL2)

CO3: Students will be able to understand caste, race, gender, and inter-generational mobility. (BL3&4)

CO4: Students will know Indian debates and global perspectives on discrimination. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks Allotted	CO
I	Theoretical Foundations of Discrimination	Taste-based and statistical discrimination; Labour market discrimination; Identity economics; Intersectionality	15	25%	CO1,CO2
II	Caste and Economic Discrimination in India	Caste as economic institution; Labour market exclusion; Ambedkar's critique; Affirmative Action.	15	25%	CO3,CO4
III	Gender and Racial Discrimination	Gender wage gap; Care economy; Social Reproduction Theory; Economics of Racial Discrimination	15	25%	CO3,CO4
IV	Inter-generational Mobility	Mobility measures; Equality of opportunity; Policy debates	15	25%	CO2,CO4

Reference:

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Thorat, S., Madheswaran, S., & Vani, B. P. (2023). *Scheduled Castes in the Indian labour market: Employment discrimination and its impact on poverty*. Oxford University Press.

CO-PO Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	H	M	2	H	H	-	M
CO2	H	M	2	H	H	-	M
CO3	H	M	3	H	H	L	M
CO4	H	M	2	H	H	L	H
Total	03	02	2.75	03	03	1	2.25

Total Score: 2.09

Course Name: Economics of Crisis

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Outcomes (COs):

CO1: Understand key concepts of financial crises, including financial fragility, systemic risk, and the Financial Instability Hypothesis. (BL1)

CO2: Analyze banking crises using the Diamond–Dybvig Model and related policy measures. (BL2)

CO3: Explain major models of currency crises and the role of expectations and contagion. (BL3&4)

CO4: Assess sovereign debt crises in terms of sustainability and default risk. (BL5&6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	CLO
I	Conceptual Foundation of crisis	Financial Fragility and Systematic Risk; History and Types of Financial Crisis; Minsky's Financial Instability Hypothesis	18	30%	CO1
II	Banking Crisis and Panics	Bank runs and liquidity crises; Diamond-Dybvig Model; Policy Implications	18	30%	CO2
III	Currency Crisis	First-Generation, Second-Generation, Third-Generation Model of Currency Crisis; Contagion of Currency Crises	18	30%	CO3
IV	Sovereign Debt Crisis	Debt sustainability and default	6	10%	CO4

Reference:

Caballero, R. J., & Krishnamurthy, A. (2001). International and domestic collateral constraints in a model of emerging market crises. *Journal of Monetary Economics*, 48(3), 513-548.

Claessens, S., and Kose, M. A. (2013), *Financial crises: Explanations, types, and implications*, Working Paper No. WP/13/28. International Monetary Fund.

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CO-PO Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	H		M				M
CO2	H	M		M			M
CO3	H	M			L		M
CO4	H		M	M	M		M
Total	03	02	02	02	1.5		02

*H/M/L: High/Medium/Low level of mapping (H=3; M=2; L=1)

CO Score: 2.08

Course Name: Time Series and Forecasting

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Major (Discipline Specific Core Course)

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Students will be able to explain and critically assess the stationarity, avoid spurious regressions, build and estimate ARIMA and VAR models. (BL1, BL2)

CO2: Students will be able to apply advanced econometric techniques to analyse long-run relationships using cointegration. (BL2, BL3)

CO3: Students will be able to conduct empirical research using econometric software. (BL3, BL4)

CO4: Students will be able to apply time series and forecasting techniques to real life datasets and interpret empirical results for policy and research. (BL4, BL5)

Module No.	Module Name	Topic	No. of Lecture	Marks allotted	CLO
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			Hours allotted		
I	Univariate Time Series Analysis	Stationarity and unit root testing; AR, MA, ARMA; ARIMA and Box-Jenkins Methodology	09	15%	CO1, CO3
II	Multivariate Time Series Analysis	VAR; Granger Causality; Cointegration; ECM	12	20%	CO1, CO2, CO3, CO4
III	Forecasting Techniques	Static and Dynamic Forecasting; Forecast Accuracy	09	15%	CO1, CO3, CO4
IV	Practical	Exposure to the data Hands-on training on STATA/R/EVIEWS	30	50%	CO1, CO2, CO3, CO4

Reference:

Brockwell, P. J., & Davis, R. A. (2002). *Introduction to time series and forecasting* (2nd ed.). Springer.

Enders, W. (2014). *Applied econometric time series* (4th ed.). Wiley.

Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.). McGraw-Hill/Irwin.

Hamilton, J. D. (1994). *Time series analysis*. Princeton University Press.

Lütkepohl, H., & Krätzig, M. (2004). *Applied time series econometrics*. Cambridge University Press.

Mills, T. C. (1990). *Time series techniques for economists*. Cambridge University Press.

CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H						M
CLO2	H						M
CLO3	H						M
CLO4	H						M
Total	03						02

Total Score: 2.5

Course Name: Machine Learning with Python

Class: B.A. in Economics

Course Code:

Credit: 4

Semester: VIII

Nature of the Course: Minor

No. of Lecture hours: 25

No. of Practical hours: 20

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Explain the fundamental concepts of statistical learning. (BL1)

CO2: Apply regression models for analyzing economic data and perform model selection. (BL2)

CO3: Analyze high-dimensional data using shrinkage methods and dimension reduction techniques. (BL3&4)

CO4: Apply classification and clustering techniques to solve real-world economic problems. (BL5)

CO5: Evaluate and compare statistical models. (BL5&6)

Module No.	Module Name	Chapter Topic	No of Lecture hours allotted	Marks allotted	CO
I	Supervised Learning – Regression & Classification	• Supervised vs. Unsupervised learning • Linear Regression: simple and multiple, cost function, gradient descent • Polynomial Regression and Feature Engineering • Logistic Regression for binary classification • Regularization techniques: Ridge, Lasso	15	25%	CO1

		• Evaluation Metrics: MSE, MAE, Accuracy, Precision, Recall, F1 • Implementation using scikit-learn (Python) and caret/tidymodels (R)			
II	Machine Learning Algorithms	Discriminant Analysis: Bayes Rule, Minimax Rule, Likelihood Ratio, Multivariate Normal classification; Misclassification rates. LDA/QDA Introduction to Decision Trees and Random Forests Feature selection and model tuning (grid search, cross-validation) Overfitting and underfitting: bias-variance tradeoff Implementation in scikit-learn, and randomForest (R)	15	25%	CO2

III	Unsupervised Learning and Dimensionality Reduction	Clustering Techniques: • Hierarchical clustering (agglomerative, divisive) • K-means clustering, Silhouette Index Introduction to Principal Component Analysis (PCA): • Population/sample PCs, Biplots, Large sample inference • Use of cluster, factoextra, recommenderlab (R), and sklearn.decomposition, surprise (Python)	15	25%	CO3
IV	Case Studies & Project	End-to-end ML workflow: EDA, preprocessing, modeling, evaluation Case studies from health, finance, marketing, sports analytics Recommender Systems (item-based, user-based) Kaggle-style mini-projects using real datasets Best practices for reproducibility and presentation Group project: presentation, code, and report submission	15	25%	CO4, CO5

Reference:

Hastie, T., Tibshirani, R., Friedman, J. (2009). The Elements of Statistical Learning, 2nd Edn., Springer.

James, G., Witten, D., Hastie, T., Tibshirani, R. (2013). An Introduction to Statistical Learning: With Applications in R, Springer.

Guido, S., Müller, A.C. (2016). Introduction to Machine Learning with Python: A Guide for Data Scientists, O'Reilly Media.

McKinney, W. (2012). Python for Data Analysis, O'Reilly Media.

Wickham, H., Grolemund, G. (2016). R for Data Science, O'Reilly Media.

Chollet, F. (2017). Deep Learning with Python, Manning Publications.

Lantz, B. (2013). Machine Learning with R, Packt Publishing.

Lesmeister, C. (2015). Mastering Machine Learning with R, Packt Publishing.

Johnson, R.A., Wichern, D.W. (2007). Applied Multivariate Statistical Analysis, 6th Edn., Pearson.

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CLO-PLO Mapping

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	H						M
CLO2	H						M
CLO3	H						M
CLO4	H						M
Total	03						02

Total Score: 2.5