



ST. XAVIER'S UNIVERSITY, KOLKATA

SYLLABUS FOR FOUR YEAR B.A. (HONS) IN ECONOMICS

(Semesters V & VI)

2025-26

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Course Outline

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

Sem	Paper Type	Course Title	Full Marks	Pass Marks	CIA MARKS			Credits
					WT	O	ATT	
V	Major	Intermediate Microeconomics II	100	40	20	5	5	4
	Major	Intermediate Macroeconomics II	100	40	20	5	5	4
	Major	Introductory Econometrics (Theory)	75	40	20	5	5	3
		Introductory Econometrics (Project)	25		--	--	--	1
	Major	Indian Economy: Sectoral Issues	100	40	20	5	5	4
	Minor	Statistical Inference	100	40	20	5	5	4
VI	Major	International Economics	100	40	20	5	5	4
	Major	Environmental Economics	100	40	20	5	5	4
	Major	Public Economics	100	40	20	5	5	4
	Major	Development Economics	100	40	20	5	5	4
	Minor	Programming in Python (Practical)	100	40	--	25	5	4

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: Intermediate Microeconomics II

Course Code:

Credit: 4

Semester: V

Nature of the Course: Major

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Outcomes:

CO1: The students will get an advanced understanding of microeconomic analysis at the intermediate level using mathematical techniques where appropriate. (BL1, BL2, BL3)

CO2: Students will be able to describe the behavioural economics approach to understanding decision-making. (BL1, BL4)

CO3: Students will be able to comprehend how market price and output decisions are taken in General equilibrium framework. (BL1, BL2, BL3)

CO4: Students will be able to analyze welfare implications of the households' and producers' decisions. (BL1, BL2, BL3)

Module Number	Module Name	Topics	Marks allotted	No of lecture hours allotted	Appropriate CO
I	Oligopoly and Monopolistic Competition	Quantity Competition: Cournot Model, Stackelberg Model; Price Competition: Bertrand Model; Cartel; Game theoretic Approach; Monopolistic Competition	35%	21	CO ₁ , CO ₂
II	Factor Markets	Marginal productivity theory of factor demand, Market demand and market supply of variable factor of production. Monopoly in the output market, Monopsony	25%	15	CO ₁ , CO ₄
III	Welfare Economics	<u>Exchange Economy:</u> The Edgeworth Box, Pareto Efficient Allocation, Core of an exchange economy, <u>Production Economy:</u> Production Possibilities, Efficiency in production, Competitive equilibrium, Fundamental Theorems of welfare economics; Pareto Optimality of Competitive Equilibrium; Externalities:	25%	15	CO ₂ , CO ₃ , CO ₄

		Concepts and violation of Pareto Optimality			
IV	Asymmetric Information	Adverse Selection, Signalling and Screening; Moral Hazard and Principal Agent Problem	15%	9	CO ₁

Reference:

- A. K. Dixit and S. Skeath, *Games of strategy*, Fourth international student edition, WW Norton & Company, 2015.
- Anindya Sen, *Microeconomics: Theory and Applications*, Oxford University Press, 1999
- C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning, 2010.
- Hal. R Varian, *Intermediate Microeconomics, A modern Approach*, 8th Edition, WW Norton and Company Inc., 2010.
- G. Jehle and P. Reny, *Advanced Microeconomic Theory*, Pearson Publishing, 2010.
- Oz Shy, *Industrial Organization: Theory and Application*, MIT Press, 1995.
- P. K. Dutta, *Strategies and Games*, MIT Press, 1999.
- Robert Gibbons, *A Primer in Game Theory*, Princeton University Press, 1992.

CLO-PLO Mapping:

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CO1	H						M
CO2	H						M
CO3	H						M
CO4	H						M
Total	3						2

CO Score: 2.5

Course Name: Intermediate Macroeconomics II

Course Code:

Credit: 4

Semester: V

Nature of the Course: Major

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: To be able to understand the differences between various macroeconomic schools of thought. (BL1, BL2)

CO2: To be able to learn about micro foundations of Macroeconomic variables. (BL2, BL3)

CO3: To be able to explore main aspects of economic growth theories. (BL3, BL4)

CO4: To be able to relate macroeconomic theory to current macroeconomic issues in economy. (BL4, BL5)

Course Content:

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Course Learning Outcome (CLO)
1	Schools of Macroeconomic Thoughts	Classicals; Keynesians; Monetarist; New Classical; Real business cycle; New Keynesian	6	10%	CO1
2	Consumption and Investment Theory	Consumption: Keynesian Consumption Function; Fisher's Theory of Optimal Intertemporal Choice; Lifecycle and Permanent Income Hypothesis Investment: Keynesian theory of investment; determinants of fixed investment; residential investment and inventory investment	18	30%	CO2, CO4
3	Theories of Money Demand	Demand for Money: Keynesian theory of regressive expectations; Tobin's theory of speculative demand for money; Baumol Tobin's theory of transaction demand for money	18	30%	CO2, CO4
4	Economic Growth	Harrod Domar Model; Solow Model; Golden rule, Technological Progress and	18	30%	CO3

		elements of endogenous growth			
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Suggested Readings:

Amartya Sen, *Growth Economics*, Penguin Modern Economic Readings, 1970
 Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, 7th Edition, Pearson, 2011.
 Chandana Ghosh and Ambar Ghosh, *Macroeconomics*, PHI Publishers, 2011.
 Charles I. Jones, *Introduction to Economic Growth*, 2nd Edition, W.W. Norton & Company, 2002.
 Errol D'Souza, *Macroeconomics*, 1st Edition, Pearson, 2009.
 N. Gregory Mankiw. *Macroeconomics*, 7th Edition, Worth Publishers, 2010.
 Olivier Blanchard, *Macroeconomics*, 5th Edition, Pearson Education, 2009.
 Robert J. Gordon, *Macroeconomics*, Prentice-Hall India Limited, 2011.
 Rudiger Dornbusch, Stanley Fischer and Richard Startz, *Macroeconomics*, 11th Edition, McGraw Hill Education, 2010.

CLO-PLO Mapping:

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CO1	H						M
CO2	H						M
CO3	H						M
CO4	H						M
Total	3						2

CO Score: 2.5

Course Name: Introductory Econometrics

Course Code: Credit: 4

Semester: V

Nature of the Course: Major

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: To understand the appropriate regression analysis for a given data set. (BL 1, 2, 3)

CO2: To analyse the performance of the regression analysis using the appropriate statistical tools. (BL 2, 3, 4)

CO3: To understand the violation of the assumptions of these analysis and remedies for these problems. (BL 1, 2, 3, 4)

Course Content:

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Course Learning Outcome (CLO)
1	Simple Linear Regression Model and Multiple Linear Regression Model	Estimation of model by method of ordinary least squares; properties of estimators; goodness of fit; R^2 and adjusted R^2 ; partial regression coefficients; tests of hypotheses; confidence intervals	30	45	CLO1, CLO2
2	Regression Diagnostics	Violations of classical assumptions, Specification Basis, Model selection	12	20	CLO1, CLO2
3	Dummy variable	Dummy variable for changes in intercept term, slope coefficient; Dummy variable trap; Dummy variable test.	6	10	CLO3
4	Empirical Project	Empirical project using statistical software like Stata/R/Eviews	12	25	CLO1, CLO2

Exam pattern

Type of evaluation	Marks
Written Examination	75
a. Final Semester Exam	45
b. CIA	30
Empirical Group Project	25
a. Group-Project report	15
b. Individual viva	10
Total	100

Suggested Readings:

Christopher Dougherty, *Introduction to Econometrics*, Oxford University Press, 2011.

Damodar N. Gujarati and Dawn C. Porter and Sangeetha Gunasekar, *Basic Econometrics*, 5th edition, McGraw-Hill Education, 2012

G.S. Maddala, *Introduction to Econometrics*, Macmillan USA, 1988

Jan Kmenta, *Elements of Econometrics*, Indian Reprint, Khosla Publishing House.

Jeffrey Wooldridge, *Introduction to Econometrics: A modern approach*, 5th edition, Cengage Learning, 2014.

John Johnston and John Enrico DiNardo, *Econometric Methods*, 4th Edition, McGraw-Hill Education, 1997.

CLO-PLO Mapping:

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CO1	H						
CO2	H						
CO3	H						
CO4	H						
Total	3						

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

CO Score: 3

Course Name: Indian Economy: Sectoral Issues

Course Code: Credit: 4

Semester: V

Nature of the Course: Major

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1. Develop ideas about the basic characteristics of Indian economy and its potential. (BL 1, 2, 3, 4)

CO2. To understand the importance of planning undertaken by the government of India and have knowledge of the various objectives, failures, and achievements as the foundation of the ongoing planning and economic reforms undertaken by the government. (BL 2, BL 3)

CO3. To understand the basic characteristics of economic development and the growth of Indian economy. (BL 1, 2, 3, 4, 5)

CO4. To analyze sector specific issues of Indian economy. (BL 4)

CO5. Understanding of problems and measures from a contextual standpoint. (BL2)

Course Content:

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Course Learning Outcome (CLO)
1	Economic Growth & Development	Major features of Indian Economy under different policy regimes.	18	30%	CO1, CO2
2	Sectoral Issues	Sectoral performances and concerns. Agriculture, Industry and Services – Trends and Patterns	12	20%	CO1, CO2, CO4
3	Employment & Inequality	Trends and Patterns. Sectoral Issues with regards to employment and inequality, Jobless growth.	18	30%	CO1, CO4, CO5
4	Social Sector Issues	Fertility & Demographic transition. Health and Education in India. Caste and Gender	12	20%	CO3, CO4, CO5

Suggested Readings:

- Anand, I., & Kumar, R. (2024). The sky and the stratosphere: Wealth concentration in India during the last (lost) decade. *Review of Income and Wealth*, 70(3), 747-765.
- Anand, I., & Thampi, A. (2016). Recent trends in wealth inequality in India. *Economic and Political Weekly*, 59-67.
- Chakravarty, S. (1998). Development planning: the Indian experience. *OUP Catalogue*.
- Chakravarty, S., Goli, S., & James, K. S. (2021). Family demography in India: Emerging patterns and its challenges. *Sage Open*, 11(2), 21582440211008178.
- Dasgupta, Z., & Basole, A. (2023). Jobless growth and structural transformation—Some theoretical considerations and empirical evidence from India. *Azim Premji University Edu*.
- Deaton, A., & Kozel, V. (2005). Data and dogma: the great Indian poverty debate. *The World Bank Research Observer*, 20(2), 177-199.
- Deshpande, A. (2021). How India's caste inequality has persisted—And deepened in the pandemic. *Current History*, 120(825), 127-132.
- Himanshu. (2010). Towards new poverty lines for India. *Economic and Political Weekly*, 38-48.
- James, K. S. (2011). India's demographic change: opportunities and challenges. *Science*, 333(6042), 576-580.
- Kannan, K. P., & Raveendran, G. (2019). from jobless growth to job-loss growth: India's employment performance during 2012-18. *Economic & Political Weekly*, 54(44), 38-44.
- Mosse, D. (2018). Caste and development: Contemporary perspectives on a structure of discrimination and advantage. *World development*, 110, 422-436.
- Munshi, K. (2019). Caste and the Indian economy. *Journal of Economic Literature*, 57(4), 781-834.
- Nayyar, D. (2006). Economic growth in independent India: Lumbering elephant or running tiger?. *Economic and Political Weekly*, 1451-1458.
- Pathak, P. K., & Singh, A. (2011). Trends in malnutrition among children in India: growing inequalities across different economic groups. *Social science & medicine*, 73(4), 576-585.
- Rakshit, Mihir. (2007). Services-led Growth. *Money and Finance*.
- Rodrik, D., & Subramanian, A. (2005). From "Hindu Growth" to productivity surge: the mystery of the Indian growth transition. *IMF Staff Papers*, 52(2), 193-228.
- Sen, K. (2017). Measurement, patterns and determinants of poverty. In *Persistence of poverty in India* (pp. 67-98). Routledge.
- Tilak, J. B. (2007). Post-elementary education, poverty and development in India. *International journal of educational development*, 27(4), 435-445.

CLO-PLO Mapping:

CLO/PLO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CO1	H						
CO2	H						
CO3	H						H
CO4	H			M		H	
CO5	H			M			
Total	3			2		3	3

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

Score: 2.7

Course Name: Statistical Inference

Course Code:

Credit: 4

Semester: 5

Nature of the Course: Minor

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Outcomes: (CO)

CO1: Understand discrete and continuous distributions and identify their characteristics. Students will be able to identify the type of statistical situation to which different distributions can be applied. Use the different distributions in solving statistical problems. (BL1, 2)

CO2: Gain knowledge in sampling distribution theory and their applications in statistical inference, Chi- square, t and F distribution. (BL 2, 3)

CO3: Gain knowledge in the concepts of Theory of estimation and distinguish various types of estimation. Know the properties of estimators and construction of point estimators. (BL2, 3, 4, 5)

CO4: Understand the process of hypothesis testing and its significance. Distinguish various test used in sampling theory. Use the different test in solving statistical problems. (BL 2, 3, 4, 5)

CO5: Application of Large sample tests and small sample tests, Framing the hypothesis, level of significance, computation of statistic, comparison between tabulated value and calculated value, decision making and statistical inference. (BL 3, 4, 5)

Course Content:

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks Allotted	Associated CO
1	Random Variables and Probability Distributions	Random Variables, Probability Distribution of a Random Variable, (Discrete and Continuous Random Variables), Moment Generating Function	15	25%	CO1, CO2
2	Sample Moments and Their Distributions	Random Sampling, Sample Characteristics and Their Distributions, Chi-Square, t, and F-Distributions; Distribution of (mean, variance) in Sampling from a Normal Population.	15	25%	CO1, CO2
3	Estimation	Problem of Point Estimation and Interval Estimation, Criterion of a good Estimator,	15	25%	CO3

		Concept of bias, Idea of Unbiasedness and minimum variance unbiasedness, method of moments			
4	Testing of Hypotheses	Null and alternative hypotheses (simple and composite), Type-I and Type-II errors, critical region, level of significance, size and power, one-sided and two-sided test, critical value, Neyman-Pearson Lemma, tests of significance related to a single Binomial proportion and Poisson mean, mean and variance of a single univariate Normal Distribution, Chi-Square Tests, t-Tests, F-Tests.	15	25%	CO4, CO5

SUGGESTED READINGS:

Bhat B.R, Srivenkatramana T and Rao Madhava K.S. (1997) *Statistics: A Beginner's Text*, Vol. I, New Age International (P) Ltd.

Dudewicz, E. J., and Mishra, S. N. (1988): *Modern Mathematical Statistics*. John Wiley & Sons.

Goon A.M., Gupta M.K.: Das Gupta.B. (2005), *Fundamentals of Statistics, Vol. I*, World Press, Calcutta.

Miller, I. and Miller, M. (2002): *John E. Freund's Mathematical Statistics* (6th addition, low price edition), Prentice Hall of India.

Mood A.M, Graybill F.A. and Boes D.C.: *Introduction to the Theory of Statistics*, McGraw Hill.

Rohatgi V. K. and Saleh, A.K. Md. E. (2009): *An Introduction to Probability and Statistics*. 2nd Edition (Reprint) John Wiley and Sons.

Snedecor G.W and Cochran W.G.(1967) *Statistical Methods*. Iowa State University Press.

CO-PO Mapping:

CO/PO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇
CO ₁	H						M
CO ₂	H						M
CO ₃	H						M
CO ₄	H						M
CO ₅	H						M
Total	3						2

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

CO Score: 2.5

Course Name: International Economics

Course Code: Credit: 4

Semester: VI

Nature of the Course: Major

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Have a good conceptual understanding of the key concepts of international trade. (BL1, 2, 3)

CO2: Ability to outline the development of trade theory historically, differentiating between standard classical and orthodox trade theories. (BL 2, 3, 4)

CO3: To understand the processes of international economic relations and conceptualizing its impact on international trade. (BL 2, 3, 4)

CO4: To acquire skills that would help those to take rational decisions on issues related to the international economy. (BL 3, 4, 5)

Course Content:

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Course Learning Outcome (CLO)
1	Basics of trade	Basis of inter-industry trade; Arbitrage; Comparative advantage; externalities; international equilibrium; offer curves, terms of trade and stability; Walrasian static stability and Marshall Lerner condition; gains from trade	12	20%	CO1, CO2, CO3
2	Neoclassical Theories of international trade	Ricardian trade theory of comparative advantage, Specific factor model, Heckscher-Ohlin theory, factor price equalisation, Rybczynski and Stolper-Samuelson theorems.	21	35%	CO1, CO2, CO3
3	New trade theories and firms in the global economy	External Economies of Scale, learning curve, Intra-industry trade, monopolistic Competition and firm responses to trade; Gravity model, Global value chain.	12	20%	CO1, CO2, CO3
4	International trade policy	Trade Policy and its effect; Partial Equilibrium Analysis of Tariff, Quota- Tariff	15	25%	CO1, CO3, CO4

		equivalence, voluntary export restraint; General Equilibrium Analysis-welfare effects of a tariff on small country and large country. Optimum tariff for large economy, Metzler's Paradox.			
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Suggested Readings:

Gandolfo, G. *International Trade Theory and Policy* (with contribution from Federico Trionfetti) 2nd ed., Springer, 2014

Paul R. Krugman, Maurice Obstfeld and Marc J. Melitz, *International Economics: Theory and Policy*, Pearson Education, 2015.

R. Caves, J. Frankel and R.W. Jones, *World Trades & Payments* (9th Ed), Pearson Education, Rajat Acharyya, *International Economics: An Introduction to Theory and Policy*, Oxford University Press, 2022.

CO-PO Mapping:

CO/PO	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CO1	H						M
CO2	H						M
CO3	H						M
CO4	H						M
Total	3						2

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

CO Score: 2.5

Course Name: Environmental Economics

Course Code: Credit: 4

Semester: VI

Nature of the Course: Major

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: Able to learn about the main theoretical and empirical concepts in environmental economics. (BL1)

CO2: Equipped with a thorough analytical grasp of environmental policy theory, ranging from externalities to international environmental agreements. (BL2, BL3)

CO3: Familiarized with the main issues in environmental valuation and with the basic features of the environmental policy tools. (BL4, BL5)

CO4: Able to demonstrate their understanding of the economic concepts of environmental policy. (BL5)

Course Content:

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Course Learning Outcome (CLO)
1	Introduction	Introduction to Environmental economics; Overview of environmental problems in India; Historical perspectives on environment	9	15%	CO1, CO2
2	Environmental Policy Measures	Overview; Pigouvian taxes and effluent fees; Tradable pollution permits; Choice between taxes and quotas under uncertainty; Implementation of environmental policy.	18	30%	CO1, CO2, CO3
3	Trade and Environment	Two-way causation: Impact of trade on environment; lax standards and perverse comparative advantage; pollution haven hypothesis; capital flight hypothesis and race to the bottom; Globalization and trade-and-environment debate; Equilibrium pollution and Environmental Kuznets' curve; Trans-boundary pollution and	18	30%	CO1, CO2

		coordination failure; Supra-national agencies/agreements as resolutions of environmental problems; World Trade Organization, Multilateral Environmental Agreements: Kyoto Protocol, Paris Agreement, UNFCCC			
4	Environmental Valuation Methods	Measuring values, benefits and costs – overview; total value – use and non-use values of goods; Willingness-to-Pay versus Willingness-to-Accept; Revealed Preference and Stated Preference Approaches	15	25%	CO3

Suggested Readings:

Bateman, Ian J. et al. *Economic Valuation with Stated Preference Techniques: A Manual*, Edward Elgar, 2002.

Bhattacharya R (ed), *Economics of the Environment: An Indian Perspective*, OUP, 2000.

Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2nd edition, 2010.

Freeman, A. M. *The Measurement of Environmental and Resource Values*, 2nd Edition, Resources for the Future, 2003.

Geoffrey Heal, 2012, Reflections – defining and measuring sustainability, *Review of Environmental Economics and Policy*, Volume 6:147-163.

Johansson, P.-O.: *Cost-benefit analysis of environmental change*, Cambridge University Press, 1993.

N. Hanley, J. Shogren and B. White. *Introduction to Environmental Economics*, CUP, 1999.

Sengupta R., *Ecology and Economics: An Approach to Sustainable Development*, OUP, 2001.

CO-PO Mapping:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1						H	
CO2						M	
CO3						H	
CO4						M	
Total						2.5	

CO Score: 2.5

Course Name: Public Economics
Course Code:
Credit: 4
Semester: VI
Nature of the Course: Major
No. of Lecture hours: 45
No. of Tutorial contact hours: 15

Course Objective: (CO)

CO1: Explain the primary sources of government revenue and expenditure, and compare the reasons for government intervention. (BL1, BL2)

CO2: Show why competition is considered efficient and understand the causes of market failure and potential policy solutions. (BL3)

CO3: Examine the design of the tax structure through the lens of efficiency and equity, and explain how the level of government expenditures is determined. (BL4)

CO4: Understand the interaction between jurisdictions influences policy choices and use economic analysis to assess policy proposals. (BL4, BL5)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Associated Course Learning Outcome (CLO)
1.	Introduction to Public Economics	Nature and scope of public economics, theory of public good, Distinction between Pure public good and Private good, Free rider problem and public provisioning	18	30%	CO1
2.	Externality and market failure	Externalities, market failure and government intervention, Transaction Cost & Coase Theorem,	12	20%	CO3
3.	Theory of Taxation	Canons of taxation; benefit principle; equal sacrifice principle; ability to pay principle. Incidence and burden of taxes, effects of taxation on income distribution, work efforts, and on savings. Laffer curve. Optimal Taxation	18	30%	CO3, CO4
4.	Public Expenditure and Public Debt	Meaning and classification of public expenditure.	12	20%	CO1, CO4

		government budget and its types government expenditure, Meaning of Public Debt, Sources of Public Borrowings, internal and external borrowing, effects of public debt; Debt Sustainability & Ricardian Equivalence			
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Suggested Readings:

Amaresh Bagchi (ed), *Readings in Public Finance*, OUP, 2005.
 B. Atkinson and J. E. Stiglitz, *Lectures on Public Economics*, McGraw-Hill, 1980.
 Ghosh A & Ghosh C. *Public Finance*. PHI Learning. 2014.
 J. E. Stiglitz, *Economics of Public Sector*, W. W Norton and Company, 2000.
 J. Hindriks and G. D. Myles, *Intermediate Public Economics*, The MIT Press, 2006.
 R. A. Musgrave and P. B. Musgrave, *Public Finance in Theory and Practice*, McGraw Hill Publications, 1989.

CO-PO Mapping:

CO/PO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇
CO ₁						M	
CO ₂						H	
CO ₃						H	
CO ₄						M	
Total						2.5	

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

CO Score: 2.5

Course Name: Development Economics

Course Code:

Credit: 4

Semester: VI

Nature of the Course: Major

No. of Lecture hours: 45

No. of Tutorial contact hours: 15

Course Objective: (CO)

CO1: To understand the notion of economic development, its measurement, and its various obstacles. (BL2, BL4)

CO2: To understand the problems of underdevelopment and ways to overcome those problems. (BL1, BL3)

CO3: To understand the concept of poverty, inequality and to learn about commonly used inequality and poverty measures. (BL3, BL6)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Associated Course Learning Outcome (CLO)
1.	Conceptions of Development	Alternative measures of development, documenting the international variation in these measures, comparing development trajectories across nations and within them; convergence or divergence between countries	18	30%	CO1, CO4
2.	Poverty, Inequality & Poverty Trap	Definitions, Measures and Mechanisms Inequality axioms; a comparison of commonly used inequality measures; connections between inequality and development; poverty measurement; characteristics of the poor; mechanisms that generate poverty	15	25%	CO3

		traps and path dependence of growth processes.			
4.	Development traps and coordination failure	Development traps, coordination failures, complementarities, history versus expectations, uneven growth and aspirations	12	20%	CO2
5.	Structural Transformation in a less developed Economy	Surplus labour and disguised unemployment; Lewis model; Harris-Todaro model.	15	25%	CO2

Suggested Readings:

Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, Oxford University Press, 2006.

Albert O. Hirschman, *Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations and States*, Harvard University Press, 1970.

Dani Rodrik, *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist*, Oxford University Press, 2011.

Debraj Ray, *Development Economics*, Oxford University Press, 2009.

Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, 1990.

Michael D. Bordo, Alan M. Taylor and Jeffrey G. Williamson (ed.), *Globalization in Historical Perspective*, University of Chicago Press, 2003.

Partha Dasgupta, *Economics, A Very Short Introduction*, Oxford University Press, 2007.

Raghuram Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton University Press, 2010.

Thomas Schelling, *Micro motives and Macro behavior*, W. W. Norton, 1978.

CO-PO Mapping:

CO/PO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇
CO ₁	H				M		M
CO ₂	H				M		M
CO ₃	H				M		M
Total	3				2		2

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

CO Score: 2.3

Course Name: Programming in Python

Course Code:

Credit: 4 [Lecture: 0, Practical: 4]

Semester: VI

Nature of the Course: Minor

Number of Lecture Hours: 60

Course Outcomes (CO):

CO1: Understand and apply basic Python programming concepts, including data types, loops, functions, and data structures, to solve economic problems.

CO2: Analysis and manipulation of economic data using Python libraries such as NumPy and Pandas, including tasks like data cleaning, statistical analysis, and aggregation.

CO3: Visualize and interpret economic data using Python's Matplotlib library to present economic trends and patterns effectively.

CO4: Implement basic econometric models such as linear regression to analyse economic data and perform hypothesis testing.

CO5: Apply time series analysis and forecasting methods to economic data, including using ARIMA models for predicting future economic trends.

COURSE CONTENT

Module No.	Module Name	Chapter Topic	CO
I	Introduction	<ul style="list-style-type: none">• Installation, and Setting Up the IDE (e.g., Jupyter Notebook)• Basic Syntax: Variables, Data types (int, float, string, bool)• Basic Input and Output• Conditional Statements (if, elif, else)• Loops (for, while)• Functions and Modules• Lists, Tuples, Dictionaries, Sets• Indexing, Slicing, and Iterating over Data Structures	CO1,CO2
II	Data Analysis and Visualization	Introduction to NumPy <ul style="list-style-type: none">• Arrays and Array Operations• Indexing, Slicing, and Iterating over NumPy arrays Introduction to Pandas <ul style="list-style-type: none">• DataFrames and Series• Importing and Exporting Data (CSV, Excel, etc.)• Data Cleaning (Handling missing data, duplicates)• Descriptive Statistics with Pandas• Grouping and Aggregating Data Data Visualization with Matplotlib	CO2,CO3,CO4

		<ul style="list-style-type: none"> • Basic Plotting (line charts, bar charts, scatter plots) • Customizing Plots (titles, labels, legends) • Advanced Plots (histograms, pie charts) 	
III	Introduction to Econometrics with Python	<p>Introduction to Econometrics and Statistical Analysis</p> <ul style="list-style-type: none"> • Descriptive statistics and data exploration • Hypothesis Testing • Correlation and Regression Analysis <p>Simple Linear Regression in Python</p> <ul style="list-style-type: none"> • Using statsmodels and scikit-learn for regression • Interpreting regression outputs • Visualizing regression results <p>Multiple Linear Regression</p> <ul style="list-style-type: none"> • Understanding multicollinearity, heteroscedasticity, and autocorrelation • Dummy Variables in Regression Models • Model Evaluation Metrics (R-squared, F-statistic) 	CO4
IV	Time Series Analysis and Forecasting	<p>Introduction to Time Series Data</p> <ul style="list-style-type: none"> • Time Series Components (Trend, Seasonality, Noise) • Plotting and Visualizing Time Series Data <p>Time Series Forecasting Models</p> <ul style="list-style-type: none"> • Autoregressive (AR), Moving Average (MA), and ARIMA Models • Using statsmodels and pmdarima for Time Series Forecasting • Evaluating Forecasting Models <p>Application to Economic Data</p> <ul style="list-style-type: none"> • Forecasting GDP, Inflation, or Stock Market Data 	CO5

Suggested Readings:

Learning Scientific Programming with Python (2020): Christian Hill, Cambridge University Press

Foundations of Statistics for Data Scientists with R & Python (2022): Alan Agresti, Maria Kateri; CRC Press

3. <https://www.anaconda.com/products/distribution> : installer and user-guide 4. <https://docs.spyder-ide.org/current/index.html>

5. <http://stat4ds.rwth-aachen.de>

Teaching Pedagogy:

S. No.	Description	Used (Yes/No)
1	Lecture	Yes
2	Discussion/Demonstration	Yes
3	Case Study	Yes
4	Test/Assignment	Yes
5	Student Seminars/Presentation	Yes

CO-PO Mapping:

CO/PO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇
CO ₁	H				M		M
CO ₂	H				M		M
CO ₃	H				M		M
Total	3				2		2

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

CO Score: 2.3

Course Name: Introduction to Economic Theory

Course Code: Credit: 3

Semester: I

Nature of the Course: Multidisciplinary Course

No. of Lecture hours: 30

No. of Tutorial contact hours: 15

Course Learning Outcomes:

CO1: The students will be able to recognize the basic theories of how individuals and firms interact within markets. (BL1)

CO2: The students will be able to understand and analyse the broad macroeconomic issues in a structured manner. (BL2, BL3)

CO3: The students will be able to understand the fundamental theories and challenges of an open economy. (BL4)

CO4: The students will be equipped with the tools to analyse the practical economic issues both at the domestic and the international level. (BL5)

Course Content:

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Course Learning Outcome (CLO)
1	Microeconomic Foundations	How Market Works; Concept of Elasticity; Consumer and Producer Behaviour; Market Structure	16	35%	CO1, CO4
2	Macroeconomic Foundations	National Income Accounting; Theories of Income Determination; Aggregate Demand and Aggregate Supply; Inflation and Unemployment	16	35%	CO2, CO4
3	Foundations of International Economics	Comparative Advantage and Gains from Trade; Balance of Payments; Exchange Rate; Fiscal and Monetary Policy in an Open Economy	13	30%	CO3, CO4

Suggested Readings:

Hubbard, G., Garnett, A., & Lewis, P. (2019). Essentials of Economics, 5th edition, Pearson Higher Education AU

Lipsey, R. G., & Chrystal, K. A. (2015). Economics, 13th Edition, OUP

Mankiw, N.G. (2016). Macroeconomics, (9th ed.). Worth Publishers. New York.

Samuelson, P., & Nordhaus, W. (2009). Economics. McGraw Hill.

Slooman, J., & Garratt, D. (2016). Essentials of Economics, 7th edition, Pearson

CO-PO Mapping:

CO/PO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇
CO ₁	H				M		M
CO ₂	H				M		M
CO ₃	H				M		M
Total	3				2		2

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CO Score: 2.3

Course Name: Introduction to Development Studies

Course Code:

Credit: 3

Semester: 2

Nature of the Course: Multi-disciplinary

No. of Lecture hours: 30

No. of Tutorial contact hours: 15

Course Objective: (CO)

CO1: Students will be able to understand the notion of economic development and its difference with the concept of growth. (BL1, BL2)

CO2: Students will be able to understand the issues of structural transformation in less developed economies. (BL3, BL4)

CO3: Students will be able to understand the concept of human development, poverty, inequality and learn to develop commonly used human development, inequality and poverty indices. (BL4)

CO4: Students will be able to analyze the problems of development and ways to overcome underdevelopment. (BL5)

Module No.	Module Name	Topic	No. of Lecture Hours allotted	Marks allotted	Associated Course Learning Outcome (CLO)
1.	Growth and Development	Growth vs development. Is per-capita income a good measure of development? Growth & Development in India. Commodities vs Capabilities. Low Level Equilibrium Trap and Big Push, Vicious Cycle of Poverty.	18	40%	CO1, CO4
2.	Poverty and Inequality	Poverty: measures and indices. Absolute and Relative Poverty, Poverty Line. Inequality: Measurement and indices. Horizontal and Vertical Inequality, Axiomatic Approach to Measuring Poverty and Inequality: Multidimensional measures	18	40%	CO3
3.	Human Development & Sustainable Development	From income to multi-dimensional measure of development--Human Development Index, Gender Development Index,	9	20%	CO3, CO4

		Inequality Adjusted Human Development Index, The Planetary Pressures–Adjusted Human Development Index. Issues of Sustainability: Sustainable Development Goals.			
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Suggested Readings:

Basu, K. (2000). On the goals of development. *Frontiers of development economics: The future in perspective*, 61-86.

Dutt, A. K. (2014). *Pathways to economic development*. OUP Catalogue.

Haq, M. U. (1991). Human development report 1991.

Klugman, J. (2011). Human Development Report 2011. Sustainability and Equity: A better future for all. *Sustainability and Equity: A Better Future for All (November 2, 2011)*. UNDP-HDRO Human Development Reports.

Ray, D. (1998). *Development economics*. Princeton University Press.

Sen, Amartya (2001). *Development as freedom (2nd ed.)*. Oxford New York: Oxford University Press.

CO-PO Mapping:

CO/PO	PO ₁	PO ₂	PO ₃	PO ₄	PO ₅	PO ₆	PO ₇
CO ₁	H				M		M
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CO ₃	H				M		M
Total	3				2		2

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

CO Score: 2.3