DEPARTMENT OF ECONOMICS

Syllabus for

Undergraduate Programmes (Honours)

Under Credit Semester System

(Outcome Based Education with Effect from 2024 Admissions)

St Berchmans College
Founded 1922
AUTONOMOUS | College with Potential for Excellence | A+ in the Fifth Cycle of Reaccreditation by NAAC
Changanassery, Kerala, India 686101 | Affiliated to Mahatma Gandhi University, Kottayam

ACKNOWLEDGEMENT

It is with great pride and anticipation that I introduce the newly designed curriculum and syllabus for the Four-Year Undergraduate Programme (FYUGP) in Economics at St. Berchmans College, Changanassery, Kerala. Aligned with the vision of the National Education Policy (NEP) of the Government of India, this syllabus reflects our unwavering commitment to academic excellence, innovation, and societal relevance. At the heart of our approach lies a deep understanding of the NEP's core principles that include holistic development of students, nurturing critical thinking, and promoting interdisciplinary learning. Our newly designed syllabus embodies these principles by offering a comprehensive blend of theoretical frameworks, practical applications, and experiential learning opportunities.

The syllabus encompasses a broad spectrum of courses covering foundational, advanced, and interdisciplinary subjects. It enables students to pursue an Economics major alongside complementary disciplines, with specialised pathways tailored for Bachelors in Economics, Honours in Economics, and Honours with research in Economics. Incorporating technology-enabled learning tools and pedagogical innovations, we are committed to furthering an inclusive and interactive learning environment that aims to cultivate a cohort of versatile economists equipped to address the multifaceted challenges of the 21st century.

At this juncture, I would like to express my profound appreciation to the college leadership and the curriculum revision committee for their tireless efforts in organising training sessions which have laid the foundation of this curriculum and syllabi.

I would also like to extend my gratitude to the esteemed members of the Board of Studies, particularly Prof L Venkatachalam (Officiating Director and RBI Chair Professor, Madras Institute of Development Studies), Dr Vijayamohanan Pillai N (Associate Professor (Retired), Centre for Development Studies, Thiruvananthapuram), Dr Philip M P (Associate Professor (Retired), St Berchmans College Changanassery), Dr Godwin S K (Professor, Department of Economics, Government Women's College, Thiruvananthapuram) , and Dr Saji M Kadavil (Research Lead, Reliance Foundation, Navi Mumbai). Your invaluable insights, expertise, and commitment to academic excellence have enriched the curriculum immeasurably.

A special word of gratitude goes to the participants of the Workshop on Curriculum & Syllabi held on 11th and 14th March, 2024. Dr S Muraleedharan (Visiting Fellow, CSES Kochi) as the Chair, along with the discussants Dr George Varghese (Assistant Professor, School of Management, Mahindra University, Hyderabad), Cyril Philip (Research Scholar, School of Economics, University of Hyderabad), Rahul A Nair (Adhoc Faculty of Economics, National Institute of Technology, Calicut) and Shine Shaji (Research Scholar, School of Economics, University of

Madras) provided invaluable feedback and guidance that significantly influenced the final design of the syllabus. Your collective expertise and constructive criticism have been invaluable in refining our approach and ensuring alignment with the best practices in curriculum development.

Finally, I must acknowledge the dedicated efforts of my colleagues in the department, Johnson K Joice, Dr Anila Skariah, Dr Jeril Tom, Dr Pavanam Thomas, and Anan Joseph Benny. Your meticulous preparation and unwavering commitment to academic excellence have been essential in shaping the curriculum and ensuring its relevance and rigour.

Dr Shinu Varkey
Chairman, Board of Studies

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Name	Official Address
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Name	Official Address
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TEACHERS FROM THE DEPARTMENT NOMINATED BY THE PRINCIPAL TO THE BOARD OF STUDIES

Name
Johnson K Joice
Dr Anila Skariah
Dr Jeril Tom
Dr Pavanam Thomas
Rev Fr Mohan Mathew

PROGRAMME OUTCOMES

PO1: Develop in-depth conceptual knowledge and skills in the discipline for vertical growth and scholarly pursuits

PO2: Integrate and apply interdisciplinary knowledge incorporating historical, theoretical, scientific, technological, economic, philosophical, cultural, aesthetic and ethical perspectives to address complex challenges in diverse settings

PO3: Demonstrate communication skills promoting adaptability, collaboration and resilience in global and local contexts

PO4: Develop problem solving skills to transfer the knowledge of methods and systems of different disciplines for a sustainable and egalitarian world order

PO5: Cultivate research skills and innovative and critical thinking to contribute to societal development through the creation of sustainable solutions and advancements in the respective fields

PROGRAMME SPECIFIC OUTCOMES

PSO1: Develop a comprehensive understanding and proficiency of economic theories, principles, and methodologies to analyse and interpret complex economic phenomena, fostering vertical growth and scholarly pursuits.

PSO2: Apply economic theory to real-world scenarios and analyse historical and contemporary events alongside diverse policy responses.

PSO3: Evaluate an economic argument using mathematical and statistical methods integrating experiential learning.

PSO4: Analyse alternative viewpoints in economic discourse within an interdisciplinary framework, evaluating their alignment with economic principles and the validity of their application.

PSO5: Develop capabilities to conduct independent economic research, demonstrating the ability to formulate research questions, gather and analyse relevant data using appropriate methodologies, and communicate the findings effectively through written reports and presentations.

OUTLINE OF DISCIPLINE SPECIFIC COURSES

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
Semester I (Course Level: 100 - 199)					
SBU24EC1DSC100	Major	Introductory Microeconomics	5	75	4
SBU24EC1DSC101	Minor	Leading Issues in Economic Development	5	75	4
Semester II (Course Level: 100 - 199)					
SBU24EC2DSC100	Major	Introductory Macroeconomics	5	75	4
SBU24EC2DSC101	Minor	Essentials of Union Budget and Economic Survey	5	75	4
Semester III (Course Level: 200 - 299)					
SBU24EC3DSC200	Major	Intermediate Microeconomics	5	75	4
SBU24EC3DSC201	Major	History of Economic Thought	5	75	4
SBU24EC3DSC202	Minor	Indian Economy	5	75	4
Semester IV (Course Level: 200 - 299)					
SBU24EC4DSC200	Major	Intermediate Macroeconomics	5	75	4
SBU24EC4DSC201	Major	Quantitative Techniques for Economic Analysis - I	5	75	4
SBU24EC4DSC202	Minor	Economic Theory and Policy: Understanding Behaviour, Information and Institutions	5	75	4
SBU24EC4INT200	Major	Internship			2
Semester V (Course Level: 300 - 399)					
SBU24EC5DSC300	Major	Quantitative Techniques for Economic Analysis - II	5	75	4
SBU24EC5DSC301	Major	Economics of Growth and Development - I	5	75	4
SBU24EC5DSC302	Major	Indian Economy: Issues and Policy – I	4	60	4
Semester VI (Course Level: 300 - 399)					
SBU24EC6DSC300	Major	International Economics	5	75	4
SBU24EC6DSC301	Major	Public Economics	5	75	4
Semester VII (Course Level: 400 - 499)					
SBU24EC7DSC400	Major	Advanced Microeconomics	5	75	4
SBU24EC7DSC401	Major	Advanced Macroeconomics	4	60	4
SBU24EC7DSC402	Major	Research Methodology in Economics	4	60	4
SBU24EC7DSC403	Major	International Trade and Finance	4	60	4
SBU24EC7DSC404	Major	Investment Analysis and Portfolio Management	4	60	4
SBU24EC7DSC405	Major	Advanced Econometrics	4	60	4
Semester VIII (Course Level: 400 - 499)					
SBU24EC8DSC400	Major	Economics of Growth and Development - II	5	75	4
SBU24EC8DSC401	Major	Mathematical Economics - II	5	75	4
SBU24EC8DSC402	Major	Indian Economy: Issues and Policy - II	5	75	4
SBU24EC8PRJ400	Major	Project			12

OUTLINE OF DISCIPLINE SPECIFIC ELECTIVE COURSES

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
Semester III (Course Level: 200 - 299)					
SBU24EC3DSE200	Elective	Mathematical Economics I	4	60	4
SBU24EC3DSE201	Elective	Fundamentals of Actuarial Economics	4	60	4
Semester IV (Course Level: 200 - 299)					
SBU24EC4DSE200	Elective	Introduction to Behavioural Economics	4	60	4
SBU24EC4DSE201	Elective	Financial Economics	4	60	4

Semester V (Course Level: 300 - 399)					
SBU24EC5DSE300	Elective	Basic Econometrics	4	60	4
SBU24EC5DSE301	Elective	Institutional Economics	4	60	4
SBU24EC5DSE302	Elective	Money and Financial Markets	4	60	4
SBU24EC5DSE303	Elective	Economics of Gender	4	60	4
Semester VI (Course Level: 300 - 399)					
SBU24EC6DSE300	Elective	Statistical Inference for Decision making	4	60	4
SBU24EC6DSE301	Elective	Entrepreneurship and Innovation	4	60	4
SBU24EC6DSE302	Elective	Environmental Economics and Human Rights	4	60	4
SBU24EC6DSE303	Elective	Foundations of Credit Assessment and Risk Management	4	60	4

OUTLINE OF MULTIDISCIPLINARY COURSES (MDC)

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
Semester I (Course Level: 100 - 199)					
SBU24EC1MDC100	MDC	Economics in Everyday Life	4	60	3
Semester II (Course Level: 100 - 199)					
SBU24EC2MDC100	MDC	Contemporary Issues in the Global Economy	4	60	3

OUTLINE OF SKILL ENHANCEMENT COURSES (SEC)

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
Semester IV (Course Level: 200 - 299)					
SBU24EC4SEC200	SEC	Data Visualisation using Excel and Tableau	3	45	3
Semester V (Course Level: 300 - 399)					
SBU24EC5SEC300	SEC	Game Theory and Strategic Behaviour	3	45	3
Semester VI (Course Level: 300 - 399)					
SBU24EC6SEC300	SEC	Introduction to R for Economic Data Analysis	3	45	3

OUTLINE OF VALUE ADDITION COURSES (VAC)

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
Semester III (Course Level: 200 - 299)					
SBU24EC3VAC 200	VAC	Introduction to Survey Research	3	45	3
Semester IV (Course Level: 200 - 299)					
SBU24EC4VAC 200	VAC	Strategies for Sustainable Development	3	45	3
Semester VI (Course Level: 300 - 399)					
SBU24EC6VAC 300	VAC	An Introduction to Impact Evaluation of Economic Policies and Programs	3	45	3

SEMESTER I

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
SBU24EC1DSC100	Major	Introductory Microeconomics	5	75	4
SBU24EC1DSC101	Minor	Leading Issues in Economic Development	5	75	4
SBU24EC1MDC100	MDC	Economics in Everyday Life	4	60	3

BEC1DSC101: INTRODUCTORY MICROECONOMICS

Type of Course	Major		
Course Level	100-199		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Describe the fields of microeconomics and macroeconomics and their basic methodology	U
CO2	Explain the basic themes and concepts of microeconomics	U
CO3	Explain the fundamentals of demand/supply models and apply these models in the context of resource allocation and market efficiency.	A
CO4	Explain the consumer equilibrium using the cardinal utility, ordinal utility and revealed preference approaches.	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	-	-	-	-	2	-	-	-	-
CO2	2	2	-	-	-	2	2	-	-	-
CO3	2	2	2	-	-	2	2	-	-	-
CO4	2	-	2	2	-	2	-	2	2	-

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x	-	x	-	x
CO2	-	x	-	x	-	x
CO3	x	-	x	x	x	x
CO4	-	-	x	-	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Subject Matter of Economics (23 Hrs)				
Why study economics? Nature and Scope of Economics: Wants, Scarcity, Competing Ends and Choice	1.1	1,2	2	Interactive Lecture
Methods of formulating Economic Theories - deductive and inductive methods. Positive versus Normative Analysis	1.2	1,2	3	Interactive Lecture
Formulation and verification of economic theories – static, comparative static and dynamic methods of analysis. - Equilibrium analysis-partial and general.	1.3	1,2	5	Interactive Lecture

The economic problem: Scarcity and choice - production possibility curve – trade off, opportunity cost and decision making; market mechanism, externality, market failure.	1.4	1,2	5	Interactive Lecture
Practicum	1.5	1,2	8	Practicum Work
Module 2: Demand, Supply and Equilibrium Analysis (29 Hrs)				
Elementary theory of demand – determinants of individual demand and market demand, and shifts in the demand curves.	2.1	3	2	Interactive Lecture
Elementary theory of supply - factors influencing supply, derivation of the supply curve, and shifts in the supply curve.	2.2	3	3	Interactive Lecture, Problem-based Learning
Determination of equilibrium price in a competitive market - Existence, Uniqueness and Stability of equilibrium	2.3	3	3	Interactive Lecture, Problem-based Learning
Demand/supply elasticities and their applications	2.4	3	3	Interactive Lecture, Problem-based Learning
Government Interventions and their Effects on market equilibrium – price ceiling, price floor and commodity taxation.	2.5	3	2	Interactive Lecture
Consumer surplus, producer surplus and the efficiency of the markets	2.6	3	2	Interactive Lecture
Practicum	2.7	3	14	Practicum Works
Module 3: Theory of Consumer Behaviour (23 Hrs)				
Consumer preference and choice – utility: cardinal and ordinal. Analysis of consumer behaviour - law of diminishing marginal utility – consumer equilibrium under cardinal utility analysis. Water – diamond paradox	3.1	4	4	Interactive Lecture
Ordinal utility analysis – indifference curves– properties – budget constraint- consumer equilibrium.	3.2	4	4	Interactive Lecture
Decomposition of price effect into income and substitution effects: Hicksian and Slutsky approaches - criticisms of ordinal utility approach. Application of the ordinal utility analysis: derivation of demand curve	3.3	4	4	Interactive Lecture
Behaviourist approach - Revealed preference theorem of Samuelson – a distinction between weak and strong ordering-derivation of demand curve.	3.4	4	3	Interactive Lecture
Practicum	3.5	4	8	Practicum Work
Module 4: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Robert S. Pindyck, and Daniel L Rubinfeld, Microeconomics, Eighth Edition, Pearson. 2012.

2. Gregory Mankiw, Principles of Microeconomics, Sixth Edition, South-Western, Cengage Learning, 2012.
3. A Koutsoyannis, Modern Microeconomics, Second Edition, Macmillan Education, 1979.

Reference

1. Jeffrey M. Perloff, Microeconomics, Seventh Edition, Pearson, 2014.
2. Karl E. Case, Ray C. Fair, Sharon M. Oster, Principles of Microeconomics, Thirteenth Edition, Pearson, 2019.
3. Paul A. Samuelson and William D. Nordhaus, Economics, Nineteenth Edition, McGraw-Hill, 2010.
4. Hal R. Varian, Intermediate Microeconomics: A Modern Approach, Ninth Edition, W. W. Norton & Company, 2014.
5. Dominick Salvatore, Microeconomics, Fourth Edition, Schaum's Outline Series, McGraw-Hill, 2006.
6. Dominick Salvatore, Principles of Microeconomics, Fifth Edition, Oxford University Press, 2009.

Course designed by: Dr Shinu Varkey

SBU24EC1DSC101: LEADING ISSUES IN ECONOMIC DEVELOPMENT

Type of Course	Minor		
Course Level	100–199		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand various measures of economic development and analyze the economic performance of less developed countries with a focus on the agricultural and rural sectors.	U
CO2	Analyze the impact of trade policy reform and trade liberalization on developing economies, examining the role of foreign contacts and technology transfer in driving economic growth, and exploring the relationship between trade and development.	An
CO3	Explore the role of human capital in economic development, examining factors such as population growth, education, health, and gender equality, and analyzing the dynamics of migration and the urban informal sector in shaping economic progress.	E
CO4	Examine the relationship between economic growth, income inequality, and poverty, analyzing the role of distributive politics, public policy, and institutions in shaping economic development outcomes, with a focus on sustainability and environmental considerations.	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	-	-	-	2	1	-	-	-
CO2	2	2	-	-	-	2	1	-	-	-
CO3	2	2	-	-	-	2		-	1	-
CO4	2	2	-	-	-	2	1	-	2	-

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1	-	x	x	x	-	x
CO2	x	-	x	x	-	x
CO3	-	-	x	-	x	x
CO4	x	x	x	-	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Economic Development: Measurement and Perspectives (19 Hrs)				
Measuring Development- Per capita income –Human Development-Sens approach	1.1	1	1	Interactive Lecture
Economic Performance of Less Developed Countries in the recent past	1.2	1	1	Case Studies
Evolution of Development Economics	1.3	1	2	Interactive Lecture
The Spread of Economic Growth to the Developing Economies	1.4	1	2	Interactive Lecture
Agriculture and the Rural Sector	1.5	1	2	Interactive Lecture
Market Size and Industrialization	1.6	1	2	Interactive Lecture
Financial Development and Economic Growth in Developing Economies	1.7	1	2	Interactive Lecture
Practicum	1.8	1	7	Practicum work
Module 2: International Trade and Technology Transfer (18 Hrs)				
Natural Resource Abundance and Economic Growth	2.1	2	2	Interactive Lecture
Trade Policy Reform	2.2	2	2	Interactive Lecture
Trade Liberalization in Developing Economies	2.3	2	2	Interactive Lecture Case Studies
Foreign Contact and Technology Transfer	2.4	2	2	Interactive Lecture
Trade as Engine of Growth	2.5	2	2	Interactive Lecture
Practicum	2.6	2	8	Practicum work
Module 3: Human Resources (19 Hrs)				
Population and Economic Development	3.1	3	2	Interactive Lecture
Role of Education	3.2	3	2	Interactive Lecture
Human Capital and demographic characteristics	3.3	3	2	Interactive Lecture
Health and Nutrition	3.4	3	2	Interactive Lecture
Gender and Development	3.5	3	2	Interactive Lecture
Migration and the Urban Informal Sector Rural–Urban Divide	3.6	3	2	Interactive Lecture Case Studies
Practicum	3.7	3	7	Practicum work

Module 4 Income Distribution, Poverty and Institutions (19 Hrs)				
Economic growth and income inequality	4.1	4	2	Interactive Lecture
Poverty and its measurement Inequality, poverty and development	4.2	4	2	Interactive Lecture
Growth and income distribution Distributive politics and economic growth	4.3	4	2	Interactive Lecture
Public policy and development Rent Seeking and government failure Institutions and economic performance	4.4	4	3	Interactive Lecture Case Studies
Sustainable Development: Ecology, Environment and Economic Progress	4.5	4	2	Interactive Lecture Case Studies
Practicum	4.6	4	8	Practicum work
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Meier, G. M., & Rauch, J. E. *Leading issues in Economic Development.* Oxford University Press, 2005
2. Todaro, M. P., & Smith, S. C. *Economic Development.* Pearson Education, New Delhi, 2005

Reference

1. Thirlwall, A. P. *Growth and Development with special reference to Developing Economies.* Palgrave Macmillan, 2009
2. Ray, Debraj. *Development Economics.* Oxford University Press, 1999
3. Higgins, B. *Economic Development.* Universal Book Stall, New Delhi, 1998
4. Nafziger, E. Wayne. *Economic Development* (5th Edition). Cambridge University Press, 2012
5. Ghatak, S. *Introduction to Development Economics.* Routledge, London, 1998

Course designed by: Dr Jeril Tom

SBU24EC1MDC100: ECONOMICS IN EVERYDAY LIFE

Type of Course	MDC		
Course Level	100-199		
Credit	3		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	30	30	60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the basic principles of economics and their application to everyday decision-making.	U
CO2	Apply economic principles to personal finance management, including budgeting, saving, investing, and understanding the impact of interest rates and inflation.	A
CO3	Analyze the impact of economic policies and global economic trends on national and personal economic well-being.	An
CO4	Evaluate the economic factors influencing personal career choices and the broader implications of technological changes on the job market.	E
CO5	Understand and critically assess the role of economic indicators in measuring economic performance and societal well-being.	U

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	-	-	2	-	2	2	-	-	-
CO2	-	2	2	-	-	-	2	-	2	-
CO3	-	-	-	1	2	-	-	2	-	2
CO4	-	2	2	-	-	2	-	2	-	-
CO5	2	-	-	2	2	-	2	-	2	2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	-	x	x	x	-	x
CO2	x	x	x	x	-	x
CO3	-	x	x	-	x	x
CO4	x	x	x	-	x	x
CO5	-	x	x	-	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Discover Your Inner Economist (24 Hrs)				
The power of economics as a way of thinking An introduction to economic Reasoning- many ways to explore economics Cognitive biases- First Impressions and Heuristics- The problem of asymmetric information Market failure- - Public Goods- Externalities- Transaction Costs- The Forces Shaping Economic Reality: Economic, Political, Social, cultural, behavioural factors, institutions, Economics -Enlarging the choices of life- capability approach- entitlements.	1.1	1	4	Interactive Lecture
The key principles of economics- the principle of opportunity cost- the marginal principle- the principle of voluntary exchange- the principle of diminishing returns- the real-nominal principle Cost – Benefit principle Efficiency-equity trade-off	1.2	1	1	Interactive Lecture
Education attainment and its economic outcomes for individuals and society. Impact of personal and societal health expenditure on economic well-being.	1.3	1	1	Interactive Lecture Case Discussion
Influence of economics on everyday decision-making The everyday economist – Common Man Economics of consumption behaviour and the economics behind- Impacts of advertising and marketing on individual consumption- Consumerism vs Minimalism Impact of consumption externality Residue generation, management, and energy use Promotion of Green consumption	1.4	2	5	Interactive Lecture
The economics of choosing the right career Impact of technology on employment Job Search, vacancy, and self-employment.	1.5	2	1	Interactive Lecture
Creation of credit and individual behaviour Interest rates, investment, and bond prices Primary and secondary markets, trading and investment behaviour.	1.6	3	2	Interactive Lecture
Practicum	1.7	2	10	Practicum work
Module 2: Managing Your Money (16 Hrs)				
Households' budgets- how much to spend, save, and invest. The principle of opportunity cost- wealth creation, intertemporal choice	2.1	4	2	Interactive Lecture Case Analysis

The miracle of compound returns- the importance of saving and investing early and often. Diversification of Investment: homestead multiple crops and financial market. Strategies for managing personal finance. Real interest rate and investment by individuals. Personal debt management.	2.2	4	3	Interactive Lecture Case Scenario Discussion
The opportunity cost of owning affordable houses. Influence of triple economic policies on ordinary life- monetary, fiscal, and trade.	2.3	4	1	Lecture /Case discussion
Practicum	2.4	4	10	Practicum work
Module 3: Global, National and Local Economy and You (20 Hrs)				
Factors for economic divide: global, national, and local Measurement of aggregate economic activity -National Income Accounts - three different ways of thinking about the economy – Circular flow. Relevance of genuine progress index.	3.1	5	2	Interactive Lecture
Different types of unemployment- The position of the common man. Unemployment, poverty, and inequality and the common man. The forces of shaping job markets and occupational structures in India. The new forms of employment in the twenty-first century Digitalization Imperative of Innovation on the common man. Costs of inflation in daily life	3.2	5	4	Interactive Lecture
Global macroeconomic challenges- climate change - inequality, poverty, Sustainable Development	3.3	5	2	Interactive Lecture
Influence of globalization on employment trends and job security Impact of globalisation, including the effects of international trade, migration, and the global economy on their daily lives.	3.4	5	2	Interactive Lecture
Practicum	3.5	5	10	Practicum work
Module 4: Teacher Specific Content This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned. **This content will be evaluated internally.**				

Textbooks

1. Officer, Lawrence H., *Everyday Economics: Honest Answers to Tough Questions*, Palgrave Macmillan, 2009.
2. Cowen, Tyler, and Tabarrok, Alex, *Modern Principles of Economics*, Worth Publishers, Latest Edition.
3. Acemoglu, Daron, Laibson, David, and List, John A., *Economics: Global Edition*, Second Edition, Pearson, 2020.

Reference

1. Samuelson, Paul, and Nordhaus, William, *Economics*, McGraw-Hill Education, Latest Edition.

2. Mankiw, N. Gregory, *Principles of Economics*, Cengage Learning, Latest Edition.
3. Krugman, Paul, and Wells, Robin, *Microeconomics*, Worth Publishers, Latest Edition.
4. Blanchard, Olivier, *Macroeconomics*, Pearson, Latest Edition.
5. Hazlitt, Henry, *Economics in One Lesson*, Ludwig von Mises Institute, Auburn, Alabama.
6. Heilbroner, Robert L., *The Worldly Philosophers*, 7th Edition, Touchstone, 1999.
7. Harford, Tim, *The Undercover Economist*, Oxford University Press, 2006
8. Tirole, Jean, *Economics for the Common Good*, Princeton University Press, 2016
9. Landsburg, Steven E., *The Armchair Economist: Economics and Everyday Life*, Free Press, Latest Edition.
10. Levitt, Steven D., and Dubner, Stephen J., *Freakonomics*, William Morrow, Latest Edition.
11. Piketty, Thomas, *Capital in the Twenty-First Century*, Harvard University Press, 2014.
12. Thaler, Richard H., and Sunstein, Cass R., *Nudge: Improving Decisions About Health, Wealth, and Happiness*, Yale University Press, Latest Edition.
13. Thaler, Richard H., *Misbehaving: The Making of Behavioral Economics*, W. W. Norton & Company, Latest Edition.
14. Online Resources-St. Louis Fed's Economic Education

Course designed by: Dr Anila Skariah

SEMESTER II

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
SBU24EC2DSC100	Major	Introductory Macroeconomics	5	75	4
SBU24EC2DSC101	Minor	Essentials of Union Budget and Economic Survey	5	75	4
SBU24EC2MDC100	MDC	Contemporary Issues in the Global Economy	4	60	3

SBU24EC2DSC100: INTRODUCTORY MACROECONOMICS

Type of Course	Major		
Course Level	100-199		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Demonstrate a foundational understanding of macroeconomic perspective, central questions, and analytical methodologies.	U
CO2	Apply national income accounting knowledge to accurately assess macroeconomic performance and employ suitable methods for national income calculation.	A
CO3	Analyse and evaluate the suitability of GDP as a measure of economic well-being and explore alternative economic performance indicators.	An
CO4	Analyse major macroeconomic indicators and their implications for economic policy and form judgments based on the analysis.	E
CO5	Analyse the effects of consumer behaviour, government spending, taxation, exports, and imports in determining GDP in the short run and apply the algebra of macroeconomic equilibrium.	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	-	-	2	-	2	-	-	-	-
CO2	-	2	2	-	-	-	2		2	-
CO3	-	2	2	2	-	-	-	2	2	-
CO4	-	-	2	2	1	-	-	-	-	1
CO5	-	2	2	-	-	-	1	-	-	-

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	-	x	x	x	-	x
CO2	-	x	x	x	-	x
CO3	x	x	x	-	x	x
CO4	x	x	x	-	x	x
CO5	-	-	x	-	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Understanding the Macro Economy (15 Hrs)				
What Macroeconomics is about? Macroeconomic perspective of aggregation	1.1	1	1	Interactive Lecture

The central questions that macroeconomists address- long-run economic growth, business cycles, unemployment, inflation, the international economy, macroeconomic policy	1.2	1	4	Interactive Lectures Student reflection
Goals of macroeconomic policy- Economic growth with price stability	1.3	1	1	Interactive Lecture
What Macroeconomists Do? - Macroeconomic analysis, research, data development, macroeconomic forecasting.	1.4	1	2	Interactive Lecture
How do economists work**?** -The Need for Abstraction - How economists use theories and models to understand economic issues - Why do economists use models? - Modelling the economy- the Circular Flow of Income- various applications of the model- The concept of equilibrium and disequilibrium in the economy.	1.5	1	7	Interactive Lecture Student reflection
Discussion: Comparative Analysis of Economies-Analyse and compare the structural elements and key macroeconomic policies of the Indian economy with those of the major global economies. Discuss how these differences influence economic growth and stability.		1		Group Discussions Think-Pair-Share
Module 2: Measurement of Macroeconomic Performance (23 Hrs)				
What data do we use? Gross Domestic Product (GDP)-defining and measuring macroeconomic aggregates- Some essential concepts in the national accounts- other output measures- GNP, NDP, and NNP at market price and factor cost	2.1	2	1	Interactive Lecture
How do we measure aggregate economic activity? - National Income (NY) Accounts - three different ways of thinking about the economy How much do different production sectors contribute to GDP? - Production approach Who gets the income? - Income approach Where do goods and services come from, and how are they used? - Expenditure approach	2.2	2	3	Interactive Lecture Problem-solving
Income, Expenditure, and the Circular Flow – Rules for Computing GDP – Real vs. Nominal GDP and GDP Deflator	2.3	2	2	Interactive Lecture Problem-solving
What makes GDP grow over time? Sources of economic growth- growth rate- The decomposition of GDP growth rates. How can we compare incomes between countries? Uses of NY statistics	2.4	2	1	Interactive Lecture Student reflection
Does GDP measure what we want it to measure? Inadequacies of GDP as a measure of economic well-being- Alternative measures of economic performance- green GDP- Satellite accounts- An economy's productive base.	2.5	3	1	Interactive Lecture Case Discussion Student reflection

Practicum Comparative analysis of National Incomes across countries. **Discussion:** GDP critique-Critical evaluation of GDP as an economic barometer, specifically in the Indian context. Exploration of alternative measures of economic performance.	2.6	3	15	Practicum Work Group Discussion Think-Pair-Share
Module 3: Key Macroeconomic Indicators and Their Impact on the Economy (22 Hrs)				
What can we learn from unemployment data? – Meaning, causes, and categories of unemployment –	3.1	4	1	Interactive Lecture
Measuring unemployment rate- the significance of unemployment rate- the cost of unemployment- Unemployment, GDP, and Okun's Law.	3.2	4	2	Interactive Lecture
Measuring the Cost of Living - Inflation- Inflation rate- How is inflation Measured? -the consumer price index and producer price index, using price indexes to adjust for the effects of inflation- the cost of inflation on the economy.	3.3	4	3	Interactive Lecture Problem-solving
Nominal interest rates versus Real Interest rates.	3.4	4	1	Interactive Lecture
Practicum Global Macroeconomic Trends Analysis: Country Comparison and Presentation Compare GDP growth, inflation, and unemployment data from developed and developing countries over the last decade. Prepare a presentation/ report based on analysis. **Discussion:** Examine the economic, societal, and individual impacts of unemployment/ inflation.	3.5	4	15	Practicum work Group Discussion Think-Pair-Share
Module 4: Short-run Models of Spending Equilibrium (15 Hrs)				
What causes short-run fluctuations in production and employment? The aggregate expenditure model- Determining the level of aggregate expenditure in a two-sector economy The algebraic and graphical illustration of macroeconomic equilibrium	4.1	5	4	Interactive Lecture Numerical Problem solving
Equilibrium in the goods market and the determination of output- an algebraic solution to equilibrium output. The multiplier effect of a change in exogenous spending- The size of the multiplier-The paradox of thrift	4.2	5	4	Interactive Lecture Problem-solving
How can we use fiscal policy- altering taxes and government spending to affect GDP? Three sector spending model- government sector multiplier-expenditure multiplier- tax multiplier- - balanced-budget multiplier	4.3	5	5	Interactive Lecture
How do exports and imports affect GDP in the short run? - Four-sector model spending equilibrium-marginal propensity to import	4.4	5	2	Interactive Lecture
Discussion: The success of fiscal policy- Can governments really choose the level of output they want?		5		Discussion Think-Pair-Share

Module 5: Teacher Specific Content
This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned. This content will be evaluated internally.

Data Sources

1. World Bank - World Development Indicators (WDI)
2. International Monetary Fund (IMF) - International Financial Statistics
3. Organisation for Economic Co-operation and Development (OECD) - OECD.Stat
4. United Nations - UNdata
5. The Conference Board - Total Economy Database: The Conference Board
6. Eurostat
7. US Bureau of Economic Analysis (BEA)
8. Federal Reserve Economic Data (FRED)
9. RBI Handbook of Economics & Statistics
10. Economic Survey
11. UNESCO site
12. ILO site

Textbooks

1. N. Gregory Mankiw, *Macroeconomics*, Worth Publications, New York, 2015.
2. Joseph G. Nellis, David Parker, *Principles of Macroeconomics*, Financial Times/ Prentice Hall, 2004.
3. Eugene Diulio, *Theory and Problems of Macroeconomics – Schaum's Outline Series*, Tata McGraw Hill, New York, 1998.

Reference

1. Hubbard R. Glenn, O'Brien Anthony P., *Macroeconomics*, Global Edition, 5th edition, Pearson, 2017.
2. Ben Bernanke, Nilss Olekalns, Robert Frank, Kate Antonovics, Ori Heffetz, *Principles of Macroeconomics*, McGraw-Hill Education (Australia), 2019.
3. Daron Acemoglu, David Laibson, John A. List, *Macroeconomics*, 3rd edition, Pearson, 2021.
4. Richard T. Froyen, *Macroeconomics: Theories and Policies*, Pearson Education Limited, 2013.
5. Willam H Branson, *Macroeconomic Theory and Policy*, East West Book Pvt Ltd, 3rd edition, 2005.
6. Andrew B. Abel, Ben S. Bernanke, Dean Croushore, *Macroeconomics*, Pearson Education Limited, Global Edition, 2017.
7. Paul Krugman, Robin Wells, *Macroeconomics*, Worth Publishers, USA, 2015.
8. Gardner Ackley, *Macroeconomics: Theory and Policy*, Macmillan, 1978.
9. William J. Baumol, Alan S. Blinder, *Macroeconomics: Principles and Policy*, 12th Edition.
10. Paul Krugman, Robin Wells, *Macroeconomics*, W.H. Freeman & Co Ltd, 2015.

Course designed by: Dr Anila Skariah

SBU24EC2DSC101: ESSENTIALS OF UNION BUDGET AND ECONOMIC SURVEY

Type of Course	Minor		
Course Level	100-199		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand government expenditure and revenue, including the role of fiscal policy in India, the composition and trends of government spending, and sources of government revenue such as taxes and non-tax revenue.	U
CO2	Analyze the basics of budgeting, deficits, and fiscal federalism, including types of deficits, budgeting processes, and budgetary concepts as well as the FRBM Act.	An
CO3	Evaluate the Economic Survey as a tool for understanding the state of the economy, fiscal developments, and policy emphasis analyzing key highlights and trends from recent Economic Survey.	E
CO4	Evaluate the Union budget in India, the process of budget making, and analyse the recent Union budgets focusing on expenditure, revenue, and deficits.	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2		-	-	1	2	-	-		
CO2	2	2	-	1	1	2	-	-	2	1
CO3	2	2	-	1	2	-	-	-	3	2
CO4	2	2	-	1	2	-	-	-	3	2
CO5	-	-	-	-	-	-	-	-	-	-

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1	-	x	x	x	-	x
CO2	-	x	x	x	-	x
CO3	x	-	x	-	x	x
CO4	x	-	x	-	x	x
CO5	-	-	-	-	-	-

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Understanding Government expenditure and Revenue (15 Hrs)				
Role of government	1.1	1	2	Interactive Lecture

Fiscal Policy in India	1.2	1	2	Interactive Lecture
Government expenditure: Composition and trends	1.3	1	3	Interactive Lecture
Capital expenditure, revenue expenditure, plan expenditure, non-plan expenditure.	1.4	1	3	Interactive Lecture
Sources of Government Revenue: Capital receipts, revenue receipts	1.5	1	3	Interactive Lecture
tax and non-tax revenue, direct and indirect taxes-Goods and Services Tax (GST)	1.6	1	2	Interactive Lecture
Module 2: Basics of Budgeting, Deficits and Fiscal Federalism (15 Hrs)				
Importance for the budget - types	2.1	2	2	Interactive Lecture
Process of budget making in India	2.2	2	2	Demonstrations
Deficits: fiscal deficit, revenue deficit and primary deficit	2.3	2	2	Demonstrations
Actual, revised and budget estimates	2.4	2	2	Demonstrations
Zero-base budgeting	2.5	2	2	Demonstrations
Gender budgeting	2.6	2	2	Demonstrations
Fiscal devolution and centre-state financial relations	2.7	2	2	Demonstrations
FRBM Act	2.8	2	1	Demonstrations
Module 3: The Economic Survey (23 Hrs)				
State of the Economy	3.1	3	2	Interactive Lecture
Fiscal Developments	3.2	3	2	Interactive Lecture
Analysis of current and past policy emphasis	3.3	3	2	Interactive Lecture
Key Highlights of the recent Economic Survey	3.4	3	2	Interactive Lecture
Practicum Group based discussion and reporting Analysis of the recent economic survey	3.5	15	15	Practicum work
Module 4 The Union Budget (22 Hrs)				
Thrust areas of budget and its shares	4.1	4	2	Interactive Lecture
Analysis of the recent Union budget-Analysis of expenditure side	4.2	4	2	Demonstrations
Analysis of revenue side	4.3	4	2	Demonstrations
Analysis of fiscal and revenue deficits	4.4	4	1	Demonstrations
Practicum Analysis of the recent budget Prepare and present Findings	4.5		15	Practicum work
Module 5 Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. This content will be evaluated internally.				

Textbooks

1. Musgrave, Richard A. *Public Finance in Theory and Practice.* McGraw Hill, 1989.
2. Stiglitz, Joseph. *Economics of Public Sector.* Norton, 2015.

Reference

1. Ministry of Finance. *Economic Survey.* Govt. of India
2. Ministry of Finance. *Union Budget.* Govt. of India
3. Kapila, U. *Fiscal and Budgetary Developments in Indian Economy since Independence.* Academic Foundation, 2016.

4. Prakash, B. A. *Dhanadhurthurashtreeyavum Rukshadhanapradhisandhiyum.* Current Books, 2017.

Course designed by: Dr Pavanam Thomas

SBU24EC2MDC100: CONTEMPORARY ISSUES IN THE GLOBAL ECONOMY

Type of Course	MDC		
Course Level	100 - 199		
Credit	3		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	30	30	60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Develop an understanding about the global economic situations including globalization and currency exchange	U
CO2	Analyse various global economic issues including nationalism, protectionism, labour and migration related issues	U
CO3	Observe the global trade scenarios, political economy, economic integrations and development cases	U
CO4	Understand the issues related to environment, climate change and the efforts to address them	U
CO5	Discuss the various global issues regarding development, inequality, demography and the challenges of artificial intelligence on economy	U

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	1				1	2			
CO2	2	1				1	1			
CO3	2	1				1	1			
CO4	2	1				1			1	1
CO5	2	1				1	1		1	

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x		x	x	x	x
CO2			x	x	x	x
CO3	x	x	x	x	x	x
CO4	x	x		x	x	x
CO5		x		x	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Globalization & Global Economic Challenges (20 Hrs)				
Globalization - Economic, social, and cultural aspects of globalization - Debates surrounding globalization	1.1	1	3	Interactive lecture

2008 recession – US dollar and international exchange – Challenges to US dollars - Fed reserve and impacts on global economy	1.2	1	4	Interactive lecture
Challenges to Globalization - Nationalism & Protectionism – Labour & Migration issues - International labour movements and remittances	1.3	2	3	Interactive lecture
Practicum	1.4	2	10	Practicum work
Module 2: Political Economy, Global Trade & Growth (20 Hrs)				
Global Trade: Composition and Direction – WTO - Trade and economic development – East Asian Miracle	2.1	3	3	Interactive lecture
Political economy and trade - The impact of geopolitical dynamics on global economic governance: Russia – Ukraine, OPEC	2.2	3	3	Interactive lecture
Contemporary trade agreements (an overview) – RTAs - Regional economic integrations e.g., EU & BREXIT, USMCA, ASEAN - Trade tensions and tariff disputes e.g., US-China trade relations	2.3	3	4	Interactive lecture
Practicum	2.4	3	10	Practicum work
Module 3: Global Economy & Environment (20 Hrs)				
Climate change, environment and economy - The economic impact of climate change - International efforts to address environmental challenges – SDGs	3.1	4	3	Interactive lecture
International inequality - Poverty & Income inequality - Demographic challenges - Technological disruptions	3.2	4	3	Interactive lecture
Artificial Intelligence and Global Economy - Labor Market Disruption - Skill Mismatch - Market Concentration - Data Privacy and Security - Global Competition and Cooperation – Traditional Industries	3.3	5	4	Interactive lecture
Practicum	3.4	5	10	Practicum work
Module 4: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Eichengreen, Barry. *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System.* Oxford University Press, 2011.
2. Baldwin, Richard. "The Great Convergence: Information Technology and the New Globalization." *The Great Convergence.* Harvard University Press, 2018.
3. Das, Ramesh Chandra, editor. *Global Tariff War: Economic, Political and Social Implications.* Emerald Publishing Limited, 2021.
4. Mansfield, Edward D., editor. *The Political Economy of International Trade.* Vol. 46. World Scientific, 2015.
5. Das, Ram Upendra, Piyadasa Edirisuriya, and Anoop Swarup. *Regional Trade and Economic Integration: Analytical Insights and Policy Options.* World Scientific, 2012.
6. Stern, Nicholas Herbert. *The Economics of Climate Change: The Stern Review.* Cambridge University Press, 2007.

Reference

1. Held, David, Anthony G. McGrew, David Goldblatt, and Jonathan Perraton. "Global Transformations: Politics, Economics and Culture." *Politics at the Edge: The PSA Yearbook 1999*, London: Palgrave Macmillan UK, 1999, pp. 14-28. Top of Form
2. De Haas, Hein. "Turning the Tide? Why Development Will Not Stop Migration." *Development and Change*, Vol. 38, No. 5, 2007, pp. 819-841.
3. Levitt, P., & DeWind, J. "International Migration and National Development." *Population Index*, Vol. 67, No. 3, 2001, pp. 345-366.
4. WTO. *World Trade Statistical Review 2023*, www.wto.org.
5. Acemoglu, Daron, and Pascual Restrepo. "Artificial Intelligence, Automation, and Work." *The Economics of Artificial Intelligence: An Agenda*, University of Chicago Press, 2018, pp. 197-236.
6. International Labour Office. *World Employment and Social Outlook 2018: Greening with Jobs*. Geneva: International Labour Organisation (ILO), 2018.

Course designed by: Anan Joseph Benny

SEMESTER III

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
SBU24EC3DSC200	Major	Intermediate Microeconomics	5	75	4
SBU24EC3DSC201	Major	History of Economic Thought	5	75	4
SBU24EC3DSC202	Minor	Indian Economy	5	75	4
SBU24EC3DSE200	Elective	Mathematical Economics I	4	60	4
SBU24EC3DSE201	Elective	Fundamentals of Actuarial Economics	4	60	4
SBU24EC3VAC200	VAC	Introduction to Survey Research	3	45	3

SBU24EC3DSC200: INTERMEDIATE MICROECONOMICS

Type of Course	Major		
Course Level	200-299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)	Introductory Microeconomics		

Course Outcomes

No.	Description	Cognitive Level
CO1	Explain the fundamentals of short-run and long-run production functions and interpret producer's equilibrium using the isoquant-iso-cost line approach	U
CO2	Describe, graph and demonstrate the relationship between the major components of short-run and long run costs of a firm using traditional and modern microeconomic theory.	An
CO3	Explain the fundamentals of a perfectly competitive market structure and imperfect competition under monopoly, oligopoly and monopolistic competition and demonstrate the short-run and long-run equilibrium of a firm/industry under these market forms.	An
CO4	Explain the subject matter of welfare economics and interpret various criteria of social welfare	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2					2				
CO2	2	2	2			2	2			
CO3	2	2	2	2		2			2	
CO4	2			2		2				

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x	x	x		x
CO2	x	x	x	x		x
CO3	x		x		x	x
CO4	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Theory of Production (20 Hrs)				
Production – production function – total, average and marginal product –short-run production function – returns to a factor - law of variable proportions.	1.1	1	3	Interactive Lecture Problem-based learning

Production function with two variable inputs – Isoquants – properties – ridge lines-Isocost line.	1.2	1	2	Interactive Lecture Problem-based learning
Production decision - optimal input combination – producers' equilibrium – expansion path	1.3	1	3	Interactive Lecture Problem-based learning
Long run production function – returns to scale –elasticity of substitution.	1.4	1	2	Interactive Lecture
Practicum	1.5	1	10	Practicum Work
Module 2: Theory of Costs (20 Hrs)				
The Traditional Theory of Cost: Short-Run Costs - fixed cost – variable cost – total cost – average costs- marginal cost	2.1	2	3	Interactive Lecture Problem-based learning
U shape of the average cost curve -reasons – The relationship between ATC, AVC and MC.	2.2	2	2	Interactive Lecture
The Traditional Theory of Cost: Long-Run Costs: The 'Envelope Curve'	2.3	2	2	Interactive Lecture Problem-based learning
Modern Theory of Costs - Short-Run Costs- average variable costs (AVC) and average fixed costs (AFC) - The Saucer Shaped Curve- Long-Run Costs: The 'L-Shaped' Curve.	2.4	2	3	Interactive Lecture Problem based learning
Practicum	2.5	2	10	Practicum Work
Module 3: Market Structure (30 Hrs)				
Market – structure – perfect competition - characteristics – AR-MR relationships-– short run equilibrium of a firm and industry–TR-TC and MC-MR approaches – derivation of supply curve - shutdown point – breakeven point -long run equilibrium of a firm and industry.	3.1	3	5	Interactive Lecture Problem-based learning
Imperfect market – monopoly – features –short run and long run equilibrium – discriminating monopoly– bilateral monopoly – monopsony	3.2	3	5	Interactive Lecture Problem-based learning
Monopolistic competition – non-price competition and selling costs - short run and long run (group) equilibrium.	3.3	3	5	Interactive Lecture Problem-based learning
Oligopoly – Nature of oligopoly – Duopoly – the kinked demand model: Sweezy's Non-collusive Stable Equilibrium - collusive oligopoly – cartels and price leadership.	3.4	3	5	Interactive Lecture
Practicum	3.5	3	10	Practicum Work
Module 4: Welfare Economics (5 Hrs)				
Subject matter of welfare economics - Criteria of social welfare: GNP as a criterion of welfare	4.1	4	1	Interactive Lecture

Bentham's criterion – Cardinalist criterion.	4.2	4	2	Interactive Lecture
Edgeworth Box diagram – contract curve - Pareto optimality criterion.	4.3	4	2	Interactive Lecture
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. A Koutsoyannis, Modern Microeconomics, Second Edition, Macmillan Education, 1979.
2. Jeffrey M. Perloff, Microeconomics, Seventh Edition, Pearson, 2014.
3. Karl E. Case, Ray C. Fair, Sharon M. Oster, Principles of Microeconomics, Thirteenth Edition, Pearson, 2019.
4. Robert S. Pindyck, and Daniel L Rubinfeld, Microeconomics, Eight Edition, Pearson. 2012.

Reference

1. Paul A. Samuelson and William D. Nordhaus, Economics, Nineteenth Edition, McGraw-Hill, 2010.
2. N. Gregory Mankiw, Principles of Microeconomics, Sixth Edition, South-Western, Cengage Learning, 2012.
3. Hal R. Varian, Intermediate Microeconomics: A Modern Approach, Ninth Edition, W. W. Norton & Company, 2014.
5. Dominick Salvatore, Microeconomics, Fourth Edition, Schaum's Outline Series, McGraw-Hill, 2006.
6. Dominick Salvatore, Principles of Microeconomics, Fifth Edition, Oxford University Press, 2009.

Course designed by: Dr Shinu Varkey

SBU24EC3DSC201: HISTORY OF ECONOMIC THOUGHT

Type of Course	Major		
Course Level	200 - 299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Illustrate a chronological development of the early economic thoughts	U
CO2	Explain the contribution of Classical Thinkers Adam Smith, Ricardo, J B Say, J S Mill and Jeremy Bentham	U
CO3	Illustrate the relevance of Socialism in the studies of economics and development and explain the contributions of Karl Marx, Engels and Lenin in the field of economics	U
CO4	Discuss the economic ideas of Gossen, Jevons, Menger and Walras and explain the concept of Marginalist Revolution and explain the contributions of Neo-Classical thinkers Veblen, Marshall and Pigou	U
CO5	Critically Analyse the Economic ideas of Keynes and major post Keynesian developments	U

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	1				2	1			
CO2	2	1		1		2	1			
CO3	2	1		1		2	1			
CO4	2	1				2	1			
CO5	2	1		1		2	1			

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x		x	x	x	x
CO2			x	x	x	x
CO3		x	x	x	x	x
CO4	x	x		x	x	x
CO5		x		x	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Early Economic Thought (10 Hrs)				
Hebrew, Greek and Roman economic thought – Plato, Aristotle – St. Thomas Aquinas and Scholasticism	1.1	1	**5**	Lecture Concept mapping

Mercantilism – Physiocracy - Economic ideas of Kautilya	1.2	1	5	Lecture
Module 2: Classical Thoughts, Marx and the Socialists (21 Hrs)				
Characteristics of Classical thoughts - Adam Smith – David Ricardo	2.1	2	3	Interactive Lecture
J B Say – J S Mill – Utilitarianism: Jeremy Bentham	2.2	2	4	Lecture
Evolution of Idea of socialism - Early socialists: Karl Marx, Fredrich Engels, Lenin	2.3	3	4	Lecture Debates
Practicum	2.4	2,3	10	Practicum Work
Module 3: Rise of Marginalism & Neo-classical school (23 Hrs)				
Characteristics of Marginalist Thinking - Forerunners: Thunen, Cournot, And Rau – Gossen - Jevons, and Walras	3.1	4	3	Lecture Inquiry based learning
Austrian School: Menger –Weber-Institutionalism: Veblen, New Institutionalism	3.2	4	3	Lecture
Neo-classical school: Marshall and Pigou	3.3	4	4	Lecture
Behavioural economics	3.4	5	3	Lecture Case studies
Practicum	3.5	4,5	10	Practicum Work
Module 4: Keynes and Reactions to Keynes (21 Hrs)				
Keynes as a critique of classical economics –Great depression – Ideas on aggregate demand	4.1	5	4	Lecture Inquiry based learning
Post Keynesian developments- Development of the idea of Monetarism – critique to Keynes	4.2	5	4	Lecture
New Classical School – New Keynesian	4.3	5	3	Lecture
Practicum	4.4	5	10	Practicum Work
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Kurz, Heinz D. *Economic Thought: A Brief History.* Columbia University Press, 2016.
2. Roncaglia, Alessandro. *A Brief History of Economic Thought.* Cambridge University Press, 2017.
3. Hajela, T.N. *History of Economic Thought.* 18th ed., Ane Books, 2015.

Reference

1. Roll, Eric. *A History of Economic Thought.* Oxford University Press, New Delhi, 1975.
2. Blaug, M. *Economic Theory in Retrospect.* Cambridge University Press, 2004.
3. Rima, Ingrid H. *Development of Economic Analysis.* Routledge, 2009.
4. Kautilya. *The Arthashastra (Penguin Classics).* Penguin Books, Delhi, 1992.
5. Haney, Louise. *History of Economic Thought.* Forgotten Books, 2018.
6. Hajela, T.N. *History of Economic Thought.* Ane Books India, New Delhi, 2008.
7. Brue, S.L., & Grant, R.R. *The Evolution of Economic Thought.* South-Western Cengage Learning, 2007.
8. Schumpeter, Joseph. *History of Economic Analysis.* Oxford University Press, 1954.

Course designed by: Anan Joseph Benny

SBU24EC3DSC202: INDIAN ECONOMY

Type of Course	Minor		
Course Level	200-299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Generate an overview of the Indian economy and analyse economic planning, reforms, poverty, unemployment, agriculture (land reforms, policies, marketing), farmer distress, and rural-urban migration.	An
CO2	Examine sectoral dynamics including industrial development (Make in India), monetary and fiscal policies (RBI's role, banking reforms, fiscal policy), and international trade (balance of payments, trade policies, globalization).	An
CO3	Analyse the emerging trends and challenges in Indian economy	An
CO4	Understand Kerala's economy and examine its features, decentralized planning, development issues in agriculture, industry, health, education, fiscal crisis, migration trends, and the service sector's role	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2		1	2	2	2	1	1	
CO2	2	2			2	2	2	1	1	
CO3	2	2		2	2	2	2	1	1	
CO4	2	2			2	2	2	1	1	

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x		x	x		x
CO2	x		x	x		x
CO3	x				x	x
CO4		x			x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Overview of the Indian Economy (21 Hrs)				
Historical Evolution of Economic Planning in India Economic Reforms and Liberalization -Poverty and Unemployment in India	1.1	1	7	Interactive lecture

Agriculture and Rural Economy (Importance of Agriculture in the Indian Economy - Land Reforms and Agricultural Policies - Issues in Agricultural Marketing - Farmer Distress and Rural-Urban Migration)	1.2	1	4	Interactive lecture Practicum work
Practicum	1.3	1	10	Practicum work
Module 2: Sectoral Dynamics and Policies (16 Hrs)				
Industrial Development and Policies (Industrial Policy and Development - Small Scale and Cottage Industries - Make in India Initiative)	2.1	2	3	Interactive lecture
Monetary and Fiscal Policies (Role and Functions of RBI -Monetary Policy Tools - Banking Sector Reforms -Fiscal Policy and Public Finance)	2.2	2	5	Flipped classroom
International Trade and Finance (Balance of Payments - Foreign Exchange Reserves – Trade Policies and Agreements - Globalization and India's Position)	2.3	2	3	Interactive lecture Practicum work
Practicum	2.4	2	5	Practicum work
Module 3: Contemporary Economic Issues and Policies (16 Hrs)				
Social and Environmental Dimensions (Income Inequality and Social Disparities - Environmental Challenges and Sustainable Development - Corporate Social Responsibility (CSR) -Inclusive Growth)	3.1	3	3	Interactive lecture
Emerging Trends and Challenges (Digital Economy and E-commerce – Demographic Dividend and Challenges – Technological Disruptions -Global Economic Challenges and India's Position)	3.2	3	5	Interactive lecture
Case Studies on Economic Issues in India - Current Economic Challenges and Policy Implications)	3.3	3	3	Flipped classroom
Practicum	3.4	3	5	Practicum work
Module 4: Kerala Economy (22 Hrs)				
Unique features of Kerala Economy – Kerala Development Experience – Decentralized planning in Kerala	4.1	4	5	Interactive lecture
Major Development Issues-Agriculture, Industry, Health & Education. Recent fiscal crisis in Kerala. In migration & Out migration	4.2	4	5	Flipped classroom
Role and significance of Service Sector in Kerala	4.3	4	2	Interactive lecture
Practicum	4.4	4	10	Practicum work
Module 5 Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. This content will be evaluated internally.				

Textbooks

1. Puri, V. K., & Mishra, S. K. *Indian Economy.* 38th ed., Himalaya Publishing House, 2021.
2. Jalan, Bimal. *India 2030: An Affluent Society in One Generation.* Rupa Publications India, 2017.

3. Prakash, B. A., & Alwin, J., (Ed). *Kerala's Economic Development: Emerging Issues and Challenges.* Sage, 2018.

Reference

1. Balakrishnan, Pulapre., Das, Mausumi., Parameswaran, M. "Growth Transitions in India." *Economic and Political Weekly*, vol. 56, no. 11, 13 Mar. 2021.
2. Roy, Shantanu De. "Economic Reforms and Agricultural Growth in India." *Economic and Political Weekly*, vol. 52, no. 9, 04 Mar. 2017.
3. Rajan, S. Irudaya., Zachariah, K. C. "New Evidences from the Kerala Migration Survey 2018." *Economic and Political Weekly*, vol. 55, no. 4, 25 Jan. 2020.

Course designed by: Dr Pavanam Thomas

SBU24EC3DSE200: MATHEMATICAL ECONOMICS – I

Type of Course	DSE		
Course Level	200-299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Develop an understanding of the concepts of sets, relations and functions, use them to comprehend further subject matters in mathematics and economics	U
CO2	Examine and analyse -mathematically and graphically- various functions in Economics	An
CO3	Understand the idea of differential of a function and explain the theorems and its physical interpretation	U
CO4	Apply the concepts in differential calculus in the field of economics and make rigorous analysis of further studies in all branches of economics	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2		2			2	1		2	
CO2	2	2	2			2	1		2	
CO3	2		2			2	1		2	
CO4	2	2	2			2	1		2	

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignments	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2	x	x		x		x
CO3			x		x	x
CO4		x	x		x	x

Course Content & Transaction Mechanism

Discuss and apply appropriate descriptive statistical tools for data analysis.

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Mathematical Preliminaries - Introduction to Set Theory (15 Hrs)				
Mathematical economics-Why we study?	1.1	1	2	Interactive Lecture
Set operations- Venn diagram-Cartesian product of two sets- Relations-functions- Domain, Co domain and Range of a function	1.2	1	3	Interactive Lecture

Linear function- functional form- Graph- Solution to simultaneous linear equation system	1.3	1	2	Interactive Lecture
Quadratic functions -solutions- Cubical Functions- functional form - polynomial function	1.4	1	2	Interactive Lecture
Exponential functions-Functional form- Graph -Meaning and Applications	1.5	1	3	Interactive Lecture
Introduction to logarithms-meaning-common log and natural log-rules of logarithms-logarithmic function - functional form- Application	1.6	1	3	Flipped Classroom
Module 2: Economic Functions (15 Hrs)				
Demand function-inverse demand function- Supply function- Equilibrium price determination when demand and supply functions are given- constant elastic demand function	2.1	2	4	Interactive Lecture
Budget line -Iso cost line-slope intercept form	2.2	2,5	4	Flipped classroom
Revenue function – Cost function -Utility function-Production function-Cobb Douglas and CES production function	2.3	2	4	Interactive Lecture
Consumption function and savings function	2.4	2	3	Interactive Lecture
Module 3: Introduction to Differential Calculus (15 Hrs)				
Derivative-Rules of Differentiation-problems	3.1	3	3	Interactive Lecture
Differentiation of function of a function - chain rule - Derivative of Logarithmic and Exponential Functions	3.2	3	3	Interactive Lecture
Increasing and decreasing function-convexity concavity and points of inflexion	3.3	3	3	Interactive Lecture
Higher Order Derivatives - Maxima and Minima of Functions with one independent variable-first and second order conditions	3.4	3	3	Interactive Lecture
Partial Differentiation (two independent variable cases)- Differential and Total derivative	3.5	3	3	Interactive Lecture
Module 4: Applications of Differential Calculus in Economics (15 Hrs)				
Finding out marginal functions and average functions from total functions -Relationship between MR, AR and elasticity Slope of indifference curve-MRS- Slope of the isoquant MRTS	4.1	4,5	4	Interactive Lecture
Elasticity of demand, Price elasticity, Income elasticity and Cross Elasticity-elasticity—problems - constant elastic demand function -Classification of commodities- Cross partial elasticity	4.2	4,5	4	Lecture-Problem-Based Learning
Optimising economic functions; -Equilibrium in perfectly competitive and monopoly market; - Mathematical derivation and problems	4.3	4,5	3	Lecture-Problem-Based Learning
Cobb Douglas production function-properties - Returns to factor -Homogeneous and homothetic functions; - the homogeneity of a production function; - Returns to Scale	4.4	4,5	4	Lecture Problem-Based Learning

Module 5: Teacher Specific Content
(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)
This content will be evaluated internally

Text Books

1. Akihito Asano, *An Introduction to Mathematics for Economics*, Cambridge University Press 2013
2. Dowling, E., *Schaum's Outline of Introduction to Mathematical Economics, 3rd Edition.* McGraw Hill Professional,2000
3. Simon, C. P., *Mathematics for Economists*, W.W. Norton and Company, Inc,2010
4. Rosser, Mike. *Basic Mathematics for Economists, Second Edition*, Routledge, Taylor & Francis Group,2003

Reference

1 Holden, K., & Pearson, A. W, *Introductory Mathematics for Economics and Business*,1992
2 Chiang, A. C., & Wainwright, K, *Fundamental Methods of Mathematical Economics*,2013
3 Mik Wisneiwski, *Introductory Mathematical Methods in Economics, 2nd Ed* McGraw-Hill,2018
4 Michael Hoy, et al, *Mathematics for Economics (2nd Edition)*, PHI,2009

Course designed by Johnson K Joice

SBU24EC3DSE201: FUNDAMENTALS OF ACTUARIAL ECONOMICS

Type of Course	DSE		
Course Level	200 - 299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the foundational principles of actuarial economics and its significance in various financial sectors.	U
CO2	Analyze the impact of time-dependent interest rates on the valuation of cash flows and investment decisions.	An
CO3	Understand investment projects using various evaluation techniques, and the principles of portfolio theory and diversification.	U
CO4	Assess fair premiums and risk under uncertainty using probabilistic models, incorporating concepts from probability theory and statistical inference.	An
CO5	Evaluate insurance pricing models used to determine premiums for various types of insurance products, considering factors such as risk, mortality rates, and market conditions.	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	1			1	1	2			1	
CO2			1		1	2			1	
CO3			2	1		2			1	
CO4			1			2			1	
CO5	1		2		1	2			1	

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x		x	x	x	x
CO2		x	x	x	x	x
CO3	x	x			x	x
CO4		x	x	x		x
CO5			x	x		x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Scope and Application of Actuarial Economics (12 Hrs)				
Overview of actuarial economics and its applications – Importance of actuarial economics – Risks, Decision making, Problems solving	1.1	1	4	Lecture

Role of actuaries in insurance and finance – Insurances, pension funds, banking, stock exchange etc.	1.2	1	4	Interactive Lecture
Actuarial profession and ethical considerations – Bias, discrimination – Generalised cash flow models	1.3	1	4	Lecture Discussion
Module 2: Interest Rates and Valuation of Cash Flows (15 Hrs)				
The theory of compound interest - Simple v/s compound interest - Time-dependent interest rates	2.1	2	4	Lecture Problem based learning
The valuation of cash flows - Accumulation factors and consistency - Discounting - Time value of money - Continuous cash flows - Constant discount rates	2.2	2	7	Lecture Problem based learning
Yield - Flat rates and APR - The yield of a cash flow	2.3	2	4	Lecture Problem based learning
Module 3: Investment Projects, Risk and Uncertainty (16 Hrs)				
Comparison of investment projects - Investment projects and payback periods - Funds and weighted rates of return	3.1	3	6	Lecture Case studies
Portfolio theory and diversification - Risk and return analysis - Fair premiums and risk under uncertainty - probabilistic models	3.2	3	5	Lecture
Pricing of corporate bonds & equity shares – Individual risk models	3.3	3	5	Lecture Problem based learning
Module 4: Insurance Pricing and Reserving (17 Hrs)				
Principles of insurance - Life insurance and annuities - Insurance pricing models - Loss reserving techniques	4.1	4	4	Lecture Flipped classroom
Life Insurance - the single decrement model - Uncertain cash flows - Conditional probabilities and the force of mortality -	4.2	4	6	Lecture Problem based learning
Life insurance: premium calculation - Residual lifetime distributions - Actuarial notation for life products - Life annuities - Multiple premiums	4.3	5	7	Lecture Problem based learning
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Dickson, David CM, Mary R. Hardy, and Howard R. Waters. *Actuarial Mathematics for Life Contingent Risks.* Cambridge University Press, 2019.
2. LeRoy, Stephen F., and Jan Werner. *Principles of Financial Economics.* Cambridge University Press, 2014.
3. Bowers, Newton L. *Actuarial Mathematics.* Society of Actuaries, 1997.
4. Rejda, George E. *Principles of Risk Management and Insurance.* Pearson Education India, 2005.
5. Black, Ken. *Business Statistics for Contemporary Decision Making.* John Wiley & Sons, 2023.
6. Gerber, Hans U. *Life Insurance Mathematics.* Springer Science & Business Media, 2013.

7. Van Horne, James C., and John Martin Wachowicz. *Fundamentals of Financial Management.* Pearson Education, 2005.

Reference

1. England, Peter D., and Richard J. Verrall. "Stochastic Claims Reserving in General Insurance." *British Actuarial Journal*, vol. 8, no. 3, 2002, pp. 443-518.
2. Elton, Edwin J., et al. *Modern Portfolio Theory and Investment Analysis.* John Wiley & Sons, 2009.
3. Damodaran, Aswath. *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset.* Vol. 666. John Wiley & Sons, 2012.
4. Emery, Douglas R. *Corporate Financial Management.* Prentice Hall, 2023.

Course designed by: Anan Joseph Benny

SBU24EC3VAC200: INTRODUCTION TO SURVEY RESEARCH

Type of Course	VAC		
Course Level	200-299		
Credit	3		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45		45
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the nature, types, purposes, and precautions to be taken in survey research	U
CO2	Identify different scales of measurement and evaluate the quality of measurement instruments used in research based on reliability and validity criteria.	A
CO3	Justify the use of appropriate sampling methods based on research objectives, population characteristics, and practical constraints	E
CO4	Apply quantitative and qualitative data collection methods for collecting data	A
CO5	Gain proficiency in using software for data processing and analysis	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2					2	-	-	-	1
CO2	2				2	2	-	1	-	1
CO3	2	2			2	2	2	1	-	1
CO4	2	2			2	2	2	1	-	1
CO5		2			2		2	1		

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1		x		x		x
CO2	x	x		x		x
CO3	x		x		x	x
CO4			x		x	x
CO5	x					x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Introduction to Survey Research (5 Hrs)				
Overview of survey research-Types of surveys- cross-sectional, longitudinal	1.1	1	3	Interactive Lecture

Ethical considerations in survey research -Informed Consent-Privacy and confidentiality anonymity -Dealing with sensitive information.	1.2	1	2	Interactive Lecture
Module 2: Measurement: Scaling Reliability and Validity (15 Hrs)				
Types of scales -nominal, ordinal, interval, and ratio scale.	2.1	2	2	Flipped Classroom
Rating scales, -dichotomous scales, -category scale - Likert scale semantic differential scale numerical scale- itemised rating scale stapel scale Ranking scales – paired comparison, forced choice, comparative scale	2.2	2	5	Interactive Lecture
Goodness of measures -Reliability -validity -content validity, criterion validity, construct validity	2.3	2	8	Interactive Lecture
Module 3: Data Collection and Data Processing (25 Hrs)				
Importance of economic research-Primary data - secondary data-secondary data sources of Indian economy	3.1	4	4	Interactive Lecture
Sampling methods - Random sampling, stratified sampling, and cluster sampling systematic sampling non-probability sampling methods -convenience sampling judgement sampling quota sampling snow ball sampling - sampling errors and non-sampling errors-Sample size determination	3.2	3	4	Interactive Lecture Case Studies and Examples
Developing survey instruments (questionnaires, interviews) Pilot testing and refining survey Importance of pre-testing Making necessary adjustments based on pilot results	3.3	4	3	Interactive Lecture
Data Collection Methods- Face-to-face interviews Telephone surveys Online surveys and mobile data collection Mail surveys	3.4	4	3	Interactive Lecture
Qualitative data collection methods -Focus group discussions In-Depth Interviews and Observational Research case studies	3.5	4	3	Interactive Lecture Case Studies and Examples
Data processing -Validation and editing; -coding data entry Tabulation -one way frequency analysis- cross tabulation	3.6	5	2	Interactive Lecture Hands-on Activities
Monitoring and quality control during fieldwork - Data Entry and Cleaning Manual and electronic data entry Data validation and cleaning procedures Dealing with missing data	3.7	5	3	Interactive Lecture Hands-on Activities
Conducting a mini project in a local community to practice survey administration and data collection techniques. -Preparing questionnaires; -conducting survey and analysis of the collected data; and writing a report	3.8	2,3, 4, 5	3	Field work report presentation - Assignment
Module 4: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Zikmund, William G. *Business Research Methods*. South-Western, 2009.
2. Babbie, Earl. *Survey Methodology: The Practice of Social Research*. Wadsworth Publishing Co Inc., 2016.
3. Fink, Arlene. *How to Conduct Surveys: A Step-by-Step Guide*. Sage Publications, 2019.
4. Sudman, Seymour, and Norman M. Bradburn. *Asking Questions: A Practical Guide to Questionnaire Design*. Jossey-Bass, 1982.
5. David de Vaus. *Surveys in Social Research*. Taylor & Francis, 2013.
6. Ary, Donald, et al. *Introduction to Research in Education*. Cengage Learning, 2009.
7. Trochim, William M. *Research Methods: The Concise Knowledge Base*. Atomic Dog Publishing, 2006.
8. Fowler Jr, Floyd J. *Survey Research Methods*. Sage Publications, 2013.

Reference

1. Gideon, Lior. *Handbook of Survey Methodology for the Social Sciences*. Springer New York, 2012.
2. Moser, Claus Adolf, and Graham Kalton. *Survey Methods in Social Investigation*. Heinemann Educational, 1971.
3. Bailey, Kenneth D. *Methods of Social Research*. Free Press, 1994.
4. Punch, Keith. *Survey Research: The Basics*. SAGE Publications, 2003.

Course designed by: Johnson K Joice

SEMESTER IV

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
SBU24EC4DSC200	Major	Intermediate Macroeconomics	5	75	4
SBU24EC4DSC201	Major	Quantitative Techniques for Economic Analysis - I	5	75	4
SBU24EC4DSC202	Minor	Economic Theory and Policy: Understanding Behaviour, Information and Institutions	5	75	4
SBU24EC4DSE200	Elective	Introduction to Behavioural Economics	4	60	4
SBU24EC4DSE201	Elective	Financial Economics	4	60	4
SBU24EC4SEC200	SEC	Data Visualisation using Excel/Tableau	3	45	3
SBU24EC4VAC200	VAC	Strategies for Sustainable Development	3	45	3

SBU24EC4DSC200: INTERMEDIATE MACROECONOMICS

Type of Course	Major		
Course Level	200-299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)	Introductory Macroeconomics		

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand and appraise the foundational postulates of classical and Keynesian economics and analyse how the levels of output and employment are determined in this model.	U
CO2	Analyze and compare various consumption and investment theories, demonstrating their influence on macroeconomic stability and individual financial decisions.	A
CO3	Critically assess the IS-LM model within Neoclassical and Keynesian frameworks, evaluating the macroeconomic policy implications of each.	An
CO4	Identify the determinants of aggregate demand and aggregate supply, derive general equilibrium, and evaluate the uses of the AS-AD model to look at the dynamic effects of policy.	E
CO5	Investigate business cycle dynamics and evaluate the role of monetary and fiscal policies in ensuring economic stability.	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	-	-	2	-	2	-	1	-	1
CO2	-	2	2	-	-	-	2	-	2	1
CO3	-	-	2	-	2	-	1	1	2	2
CO4	-	2	-	2	-	2	-	2	-	2
CO5	-	2	-	-	1	-	1	-	2	2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1		x	x	x		x
CO2	x	x	x	x		x
CO3		x	x		x	x
CO4		x	x		x	x
CO5	x	x	x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Introduction to Macroeconomic Theory (15 Hrs)				
Intellectual Traditions in Macroeconomics- Classical Approach: Main postulates of classical macroeconomics -Say's Law- saving and investment- Classical model of determination of output and employment.	1.1	1	3	Interactive Lectures
The classical theory of aggregate price level determination- The quantity theory of money- classical dichotomy-the equation of exchange- Cambridge approach	1.2	1	5	Interactive Lecture
Keynesian Approach: Main postulates of Keynesian Economics -Aggregate demand, downward inflexibility of wages and prices, MEC, animal spirits. Consumption function, statement of liquidity preference function, the liquidity trap and limits to monetary policy.	1.3	1	5	Interactive Lecture
Conceptual controversies: Pigou effect, Keynes effect, and real balance effect.	1.4	1	2	Interactive Lecture Student reflection
Discussion: How do the assumptions of classical and Keynesian economics differ, and how do these differences impact policy recommendations for managing economic stability?		1		Group Discussions
Module 2: Behavioural Foundations of Consumption and Investment (15 Hrs)				
What factors determine consumption? Absolute income hypothesis - Empirical findings on consumption-income relationship -Kuznets's consumption puzzle	2.1	2	2	Interactive Lecture Case Discussion
Consumption in a two-period model- Fisher's intertemporal choice model -relative income hypothesis	2.2	2	3	Interactive Lecture Case Discussion
Forward-looking theories of consumer behaviour- permanent income hypothesis- life-cycle hypothesis. Rational expectations and random-walk of consumption expenditure.	2.3	2	4	Interactive Lecture Case Discussion
What factors determine investment? Investment demand function- types of investment-present value and interest rates- Neoclassical theory of investment	2.4	2	3	Interactive Lecture Case Discussion
Accelerator theory of investment- fixed and flexible version- Tobin's Q-theory of investment, multiplier-accelerator model	2.5	2	3	Interactive Lecture Case Discussion
Case Study: Investment Strategies in the "New" and "Old" Economies.		2		Think-Pair-Share

Module 3: The IS-LM and AS-AD Model (22 Hrs)				
How does the interest rate affect demand and production? Goods market and the IS relation- deriving IS curve How might the economy respond if the central bank changes the interest rate? Money market and the LM relation- deriving the LM curve	3.1	3	2	Interactive Lecture
The IS-LM Model (closed economy)- the simultaneous equilibrium of real and monetary sectors- the Neoclassical and Keynesian versions of IS-LM.	3.2	3	2	Interactive Lecture
Fiscal and monetary policy analysis in IS-LM model- Fiscal policy and crowding out effect	3.3	3	1	Interactive Lecture
Derivation of the aggregate supply relation Derivation of the aggregate demand relation Equilibrium output in the short run and medium run	3.4	4	1	Interactive Lecture
Dynamic effects of changes in policy or economic environment using the AS-AD model	3.5	4	1	Interactive Lecture
Practicum **Discussion:** Which components of aggregate demand changed the most during the 2007–2009 recession?	3.6	4	15	Practicum work Group Discussion Think-Pair-Share
Module 4: Business Cycles and Macroeconomic Policies (23 Hrs)				
What are business cycles, and why do they occur? How do the different components of demand fluctuate over the business cycle? What drives the business cycles?	4.1	5	2	Interactive Lecture
Keynesian trade cycle theory- monetarist interpretation of trade cycles	4.2	5	2	Interactive Lecture
How should the central bank react to news about the economy? Monetary Policy - The objectives of monetary policy- how monetary policy can help to stabilize the economy. How should the central bank react to shocks? An exogenous increase in money demand- A cost-push shock- An unexpected and permanent increase in productivity- An increase in the expected rate of inflation- The Taylor Rule- Instruments of monetary policy	4.3	5	2	Interactive Lecture
How does fiscal policy affect economic activity? - Fiscal policy in the short run- Expansionary fiscal policy and crowding out Do lower taxes really make us more prosperous? - Ricardian equivalence Some issues relating to short-run fiscal policy- Policy lags- automatic stabilisers	4.4	5	2	Interactive Lecture
Practicum Choose a historical business cycle (e.g., the recession of 2008) and analyze its phases. Discuss the key economic indicators during this cycle and the impact of monetary and fiscal policies implemented to address it. **Debate**: Should we care about business cycles? Rules versus discretion debate	4.5	5	15	Practicum Work Debate Think-Pair-Share

Module 5: Teacher Specific Content
This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned.
This content will be evaluated internally.

Textbooks

1. Olivier Blanchard, *Macroeconomics*, Pearson, USA, 2017.
2. Nils Gottfries, *Macroeconomics*, Palgrave Macmillan, New York, NY, 2013.
3. Eugene Diulio, *Theory and Problems of Macroeconomics – Schaum's Outline Series*, Tata McGraw Hill, New York, 1998.

Reference

1. Joseph G. Nellis, David Parker, *Principles of Macroeconomics*, Financial Times/ Prentice Hall, 2004.
2. R. Glenn Hubbard, Anthony Patrick O'Brien, *Macroeconomics*, Pearson, New York, 2018.
3. Rosalind Levacic and Alexander Rebmann, *Macroeconomics: An Introduction to Keynesian-Neoclassical Controversies*, Reprinted Edition, Macmillan, 2007
4. Ben Bernanke, Nilss Olekalns, Robert Frank, Kate Antonovics, Ori Heffetz, *Principles of Macroeconomics*, McGraw-Hill Education (Australia), 2019.
5. Daron Acemoglu, David Laibson, John A. List, *Macroeconomics*, 3rd Edition, Pearson, 2021.
6. Andrew B. Abel, Ben S. Bernanke, Dean Croushore, *Macroeconomics*, Pearson Education Limited, Global Edition, 2017.
7. Hubbard R. Glenn, O'Brien Anthony P., *Macroeconomics*, Global Edition, 5th Edition, Pearson, 2017.
8. Paul Krugman, Robin Wells, *Macroeconomics*, Worth Publishers, USA, 2015.
9. Gardner Ackley, *Macroeconomics: Theory and Policy*, Macmillan, 1978.
10. William J. Baumol, Alan S. Blinder, *Macroeconomics: Principles and Policy*, 12th Edition.
11. Paul Krugman, Robin Wells, *Macroeconomics*, W.H. Freeman & Co Ltd, 2015.
12. David Cobham, *Macroeconomic Analysis: An Intermediate Text*, Economics Series, Longman, London, 1987.

Course designed by: Dr Anila Skariah

SBU24EC4DSC201: QUANTITATIVE TECHNIQUES FOR ECONOMIC ANALYSIS – I

Type of Course	Major		
Course Level	200-299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

At the end of the course the students will be able to

No.	Description	Cognitive Level
CO1	Assess the data and identify appropriate measures of central tendency and dispersion for data analysis.	E
CO2	Perceive the measures of skewness and kurtosis and apply them to make informed decisions about the characteristics of data.	E
CO3	Apply the tools of the correlation coefficient for qualitative and quantitative variables, and interpret the results.	A
CO4	Understand probability concepts, theorems, and distributions in order to apply and solve problems	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	2		1	2			2	1
CO2	2	2	2		1	2			2	1
CO3	2	2	2		1	2			2	1
CO4	2		2		1	2			2	1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x			x		x
CO2	x	x		x	x	x
CO3			x		x	x
CO4		x	x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Descriptive Statistics – Measures of Central Tendency and Dispersion (20Hrs)				
Social science Research importance -Role of statistics in research	1.1	1	1	Interactive Lecture
Types of Data-Cross-section, Time series and Pooled-Scales of measurement: Nominal, ordinal, interval and radio --Frequency distributions	1.2	1	2	Flipped Classroom

Descriptive vs Inferential statistics - Central Tendency: Meaning -Mean, Median, Mode, Geometric Mean and Harmonic mean, quartiles, deciles and percentiles.	1.3	1	3	Flipped Classroom
Dispersion Meaning -Measures -Range -Inter quartile range and quartile deviation-Mean deviation and Standard deviation- Absolute and relative measures of dispersion-Applications -Risk and volatility, consistency	1.4	1	3	Interactive Lecture
Box and Whisker Plot -identifying outliers Inequality measurement -Lorenz curve	1.5	1	1	Interactive Lecture
Practicum-Problem based assignment on measure of central tendency and dispersion	1.6	1	10	Practicum
Module 2: Descriptive Statistics – Measures of Skewness and Kurtosis (20 Hrs)				
Moments: raw and central moments	2.1	2	4	Interactive Lecture
Skewness meaning-Karl Pearson's and Bowley's measures of skewness, skewness based on moments Practical applications -income distribution land distribution asset returns	2.2	2	4	Interactive Lecture
Kurtosis, meaning- measurement based on moments-Kurtosis in income distributions	2.3	2	2	Interactive Lecture
Problem based assignment on measurement of skewness and kurtosis -Practicum	2.4	2	10	Practicum
Module 3: Correlation Analysis (20 Hrs)				
Covariance Meaning and Problems	3.1	3	3	Interactive Lecture
Correlation definition and meaning, types -Karl Pearson's coefficient of correlation and spearman's rank correlation coefficient	3.2	3	3	Interactive Lecture
Properties of correlation coefficient -coefficient of determination-Multiple correlation coefficients; -partial correlation coefficients; -meaning Correlation practical applications; -investment analysis; -performance evaluation	3.3	3	4	Interactive Lecture
Practicum Problem based assignments on correlation analysis and its application	3.4	3	10	Practicum
Module 4 Theory of Probability (15 Hrs)				
Probability: terminology – random experiments, trial and event, sample space, exhaustive cases mutually exclusive events equally likely events independent events	4.1	4	3	Interactive Lecture
Permutations and combinations	4.2	4	3	Flipped classroom
Approaches to probability classical statistical and axiomatic approaches-problems	4.3	4	5	Interactive Lecture
Addition theorem in probability—problems-multiplication theorem in probability-problems-conditional probability-problems.	4,4	4	4	Interactive Lecture

Module 5: Teacher Specific Content
(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)
This content will be evaluated internally

Textbooks

1. Levin, Richard I., et al. *Statistics for Management*. 7th ed., Pearson, 1998.
2. Acze, Amir D., and Jayavel Sounderpandian. *Complete Business Statistics*. Tata McGraw Hill Education Private Limited, New Delhi, 2011.
3. Stephens, Larry, and M. Spiegel. *Schaum's Outline of Statistics*. 5th ed., McGraw-Hill Education, 2014.
4. Salvatore, Domnic, and Derrick Reagle. *Schaum's Outlines Statistics and Econometrics*. 2nd ed., McGraw Hill Education, 2011.

Reference

1. Keller, Gerald. *Statistics for Management and Economics*. Cengage Learning, 2014.
2. Ralph, James, et al. *A Practical Introduction to Index Numbers*. John Wiley & Sons, 2015.
3. Mc Clave, James T., et al. *Statistics for Business and Economics*. Global Edition, Pearson, 2018.

Course designed by: Johnson K Joice

SBU24EC4DSC202: ECONOMIC THEORY AND POLICY: UNDERSTANDING BEHAVIOUR, INFORMATION AND INSTITUTIONS

Type of Course	Minor		
Course Level	200		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Analyse the concept of rationality in economics, evaluating its variations, and critically examining the impact of time, emotions, constraints, information, self-interest, altruism, on economic decision-making.	An
CO2	Discover how various factors, such as information gaps, risk behaviours, government interventions, social influences, and ethical considerations, affect economic decisions.	An
CO3	Analyse the role of government in the economy, evaluate externalities, and find solutions	An
CO4	Examine income inequality, its measurements, technological revolution impacts, and also regarding different types of capitalism, and its wider economic effects	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2			1	2	1			1
CO2	2	2			1	2	1			1
CO3	2	2			1	2	1			1
CO4	2	2			1	2	1			1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2	x		x	x		x
CO3		x	x		x	x
CO4			x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Economic Behaviour and Rationality (20 Hrs)				
Rationality in Economics and its variants - Classical View of Human Nature – Neo Classical Understanding, – Behavioural Economics - heuristics- types	1.1	1	5	Interactive Lecture

The role of time in Economic decisions -present value, future value discounting – Applications in business Role of emotions in economic Decisions The role of constraints and information; -Bounded rationality Role of influence-Self-interest altruism and the common good	1.2	1	5	Interactive lecture Group discussion
Cases/Discussion/ assignment -practicum	1.3	1	10	Practicum work
Module 2: Information Economics and Social Economics (20 Hrs)				
Asymmetric information - Adverse selection - market solution to adverse selection: moral hazard – Government policy in the world of asymmetric information	2.1	2	7	Interactive Lecture - Classroom discussion
The economics of charity and fairness; The economics of revenge and trust – How do others influence our decisions? Where do our preferences come from? The economics of peer effects– Following the Crowd: Herding Cooperation, negotiation, conflicts of interest, and social norms	2.2	2	8	Interactive Lecture
Discussion/Case study -Practicum	2.3	2	5	Practicum work
Module 3: Institutions and Economics (18 Hrs)				
Income inequality - Measuring income and living standard – History's hockey stick Growth in income Role of technology -Technological Revolution	3.1	3	8	Interactive Lecture
The economy and environment – Capitalism as an Economic system –Capitalism defined Varieties of capitalism: institutions Government and the Economy-Economics and the economy Discussion Capitalism vs other institutions	3.2	3	5	Interactive Lecture
Inequality -world inequality report-Oxfam report-analysis and presentation -Practicum	3.3	3	5	Report writing and presentation
Module 4: The Government in the Economy, Externalities and Public Goods (17 Hrs)				
Taxation and government Spending - Taxation: Tax incidence and deadweight losses; – The effect of demand and supply elasticities on the tax burden Government Failures – The direct cost of bureaucracy and corruption, Underground economy - Importance of Government in the context of equity versus efficiency trade-off Consumer sovereignty and paternalism	4.1	4	4	Interactive Lecture
Externalities – A 'Broken invisible hand': Negative and positive externalities Private solution to externalities-Bargaining and the Coase theorem Government solution to externalities -Command and control, Taxes and subsidy Public good, Government and Private provisioning of public good – Common pool resource goods and tragedy of the commons	4.2	4	3	Interactive Lecture Flipped Classroom

Positive and negative externalities, tragedy of commons – examples cases and policy suggestions-Practicum	4.3	4	10	Practicum work
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Goodwin, Neva, et al. *Microeconomics in Context (MIC)*. Routledge, 5th ed., 2019. Chapter 7. https:// www.bu.edu/eci/files/2019/05/MIC3eCh7.pdf
2. Acemoglu, Daron, et al. *Economics*. Pearson Education Limited, 2019. Chapters 10, 16, and 18.
3. CORE. *The Economy*. The CORE Project, 2016. Chapter 1. https://coreecon.org/the-economy/v1/index.html
4. Mankiw, N. Gregory. *Principles of Microeconomics*. Cengage India, 2022.

Reference

1. Perloff, Jeffrey M. Microeconomics with Calculus. 3rd ed., Pearson, 2016.
2. Snyder, Christopher, et al. Microeconomic Theory: Basic Principles and Extensions. Cengage Learning, 2015.

Course Designed by: Johnson K Joice

SBU24EC4DSE200: INTRODUCTION TO BEHAVIOURAL ECONOMICS

Type of Course	DSE		
Course Level	200 - 299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Compare and contrast behavioural and neoclassical concepts	U
CO2	Appraise behavioural concepts in individual decision making	E
CO3	Apply core behavioural concepts to predict behaviour of economic agents under risky situations	E
CO4	Analyse the mechanism of intertemporal choice and infer the reaction of economic agents during different time periods	An
CO5	Assess behavioural game theory concepts with the aim to explain observed human behaviour	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	1	1		1		1			1	
CO2		1	1			1	1		1	
CO3	1	1	2	1		1	1		1	
CO4		1	2	1		1			1	
CO5	1	1	1	1		1	1		1	

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2	x	x		x	x	x
CO3		x	x		x	x
CO4		x	x	x		x
CO5			x	x	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Foundations of Behavioural Economics (20 Hrs)				
Nature of Behavioural Economics- Perspective on Psychology and Economics- Role of Intuition, Emotions, Beliefs in decision making	1.1	1, 2	5	Lecture Concept mapping

Origins of Behavioural Economics: Decision making under neoclassical approaches-Rationality Assumption and Economic Behaviour-Optimality- Bounded Rationality	1.2	1, 2	4	Lecture
Heuristics availability and biases, Representativeness, Substitution, Framing, Anchoring, Mental Accounting, Endowment bias, Status Quo bias	1.3	1, 2	6	Lecture Inquiry based learning Case studies
Nudge Theory- Choice Architect - Neuroeconomics	1.4	1, 2	5	Lecture Case studies
Module 2: Choice under Risk & Uncertainty (10 Hrs)				
Human Behaviour Under Uncertainty- Expected Utility as a basis for decision making	2.1	3	4	Interactive Lecture Case studies
Loss Aversion-Prospect Theory – Reference Points – Risk Concept and Understanding – Shape of Utility Function.	2.2	3	5	Lecture Case studies Discussions
Decision Weighting – Probabilistic Judgment	2.3	3	1	Lecture Problem based learning
Module 3: Intertemporal Choice, Temporal Choice (15 Hrs)				
Discounted Utility Model, Construal Level Theory	3.1	4	5	Interactive Lecture
Valuation of Delayed Consumption Preferences for Sequences of Outcomes	3.2	4	5	Lecture
Intertemporal Choice- Exponential discounting, Hyberbolic Discounting, Preference Reversal	3.3	4	5	Lecture Problem based learning
Module 4: Behavioural Game Theory (15 Hrs)				
Strategic Interaction and Social Norms: Ultimatum game	4.1	5	5	Interactive Lecture
Social Preferences Fairness, trust, cooperation, reciprocity, Norms	4.2	5	5	Lecture Case studies
Some applications of behavioural game theory; Modelling social preferences – inequality-aversion models, reciprocity models	4.3	5	5	Lecture Discussions
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Angner, Erik. *A Course in Behavioral Economics.* Bloomsbury Publishing, 2020.
2. Kahneman, Daniel. *Thinking, Fast and Slow.* Penguin, New York, 2011.
3. Altman, Morris. *Handbook of Contemporary Behavioral Economics: Foundations and Developments.* Routledge, 2015.
4. Camerer, Colin F., George Loewenstein, and Matthew Rabin, eds. *Advances in Behavioral Economics.* Princeton University Press, 2004.

5. Loewenstein, George. *Exotic Preferences: Behavioral Economics and Human Motivation.* Oxford University Press, 2007.
6. Thaler, Richard H. *Misbehaving: The Making of Behavioral Economics.* WW Norton & Company, 2015.
7. Dhami, Sanjit. *The Foundations of Behavioral Economic Analysis.* Oxford University Press, 2016.

Reference

1. Kahneman, Daniel, and Amos Tversky. "Choices, Values, and Frames." *American Psychologist*, vol. 39, no. 4, 1984, pp. 341.
2. Ogaki, Masao, and Saori Tanaka. *Behavioral Economics Towards a New Economics by Integration with Traditional Economics.* Springer, 2017.
3. Pindyck, Robert S. *Microeconomics.* 8th ed., Pearson, 2013.

Course designed by: Anan Joseph Benny

SBU24EC4DSE201: FINANCIAL ECONOMICS

Type of Course	DSE		
Course Level	200-299		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand and Analyse Financial Economic Concepts	An
CO2	Apply the principles of capital pricing and investment theory to evaluate investment opportunities and make informed investment decisions in various financial contexts	A
CO3	Analyse the relation between risk and return in financial investments and apply various risk management techniques to make informed investment decisions	An
CO4	Demonstrate a comprehensive understanding of derivative market including types of derivatives, their valuation principles and their role in managing financial risk	U

Cognitive Levels R – Remember; U – Understand; A – Apply; An – Analyse; E – Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	1				3			2	
CO2	2	2		2		2			3	1
CO3	2					2			3	
CO4	2					2			1	

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1		x	x	x		x
CO2	x		x	x		x
CO3		x	x		x	x
CO4	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: An Introduction to financial Economics (15 Hrs)				
Indian Financial System- money market and New Issue market and Stock Exchanges- Regulation and supervision of financial system	1.1	1	4	Interactive Lecture
Financial Economic Methods-Discounting-Risk Management and diversification	1.2	1	3	Case Studies

Single-period random cash flows Random asset returns; portfolios of assets; portfolio mean and variance; feasible combinations of mean and variance;	1.3	1	4	Interactive Lecture
Mean-variance portfolio analysis: the Markowitz model and the two-fund theorem; risk-free assets and the one-fund theorem.	1.4	1	4	Interactive Lecture
Module 2: Capital Pricing and Investment Theory (15 Hrs)				
The capital market line; the capital asset pricing model; the beta of an asset and of a portfolio; security market line; use of the Capital Asset Pricing Model(CAPM) in investment analysis and as a pricing formula.	2.1	2	5	Interactive Lecture
Financial Investment -Theory and structure of interest rates Corporate finance-, Corporate Finance Patterns of corporate financing: common stock; debt; preferences; convertibles; Capital structure and the cost of capital; corporate debt and dividend policy; the Modigliani Miller theorem. Time Value of Money: Future Value, Present Value, Valuation of annuities and perpetuities	2.2	2	5	Interactive Lecture
Investment Criteria: Net Present Value, Benefit Cost Ratio, Internal Rate of Return, --Discounted Payback Period –risk and return-measurement of risk and return of an asset	2.3	2	5	Interactive Lecture Case Studies
Module 3: Risk and Return (15 Hrs)				
Types of Risk-Measurement and trade-off between risk and return-Asymmetric information-Moral hazard-Adverse selection –Principal Agent Problem (Concepts Only)	3.1	3	5	Interactive Lecture
Interest risk management -Liquidity management- Recent financial failures	3.2	3	5	Interactive Lecture
Introduction to Personal Finance- Goal setting –cash management - SIP-investment alternatives-retirement plans (concept only)	3.3	3	5	Interactive Lecture
Module 4: Derivative Markets (15 Hrs)				
Brief history of derivatives Types - Forwards, futures, options and swaps –arbitrage -	4.1	4	5	Interactive Lecture
Theories of future prices –Cost of Carry Model, The expectation Model (Concepts Only)	4.2	4	5	Interactive Lecture
Exchange Traded Funds and others Valuation of derivatives-Black Scholes Model (Concept only)	4.3	4	5	Interactive Lecture
Module 5: Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. **This content will be evaluated internally.**				

Textbooks

1. Bailey, Roy E. *The Economics of Financial Markets.* Cambridge University Press, 2005
2. Boddie, K. M., & Ryan. *Investments*. McGraw-Hill Publications, New York, 2003

3. Copeland, T. E., & Weston, J. F. *Financial Theory and Corporate Policy*. Addison Wesley, 1988
4. Hull, J. M. *Futures, Options and other Derivatives*. Prentice Hall, 2003

Reference

1. Ross, S. A., Randolph W. W., Jordan, B. D., & Roberts, G. S. *Fundamentals of Corporate Finance*. McGraw Hill Publications, New York, 2005
2. Robert C. R. *Investment Concepts, Analysis and Strategies*. Pearson, 2002
3. Machiraju, H. R. *Indian Financial System*. Vikas Publishing House, 2000
5. Fisher, D. E., & Jordan, R. J. *Security Analysis and Portfolio Management*. Eastern Economy Edition, 1999

Course designed by: Dr Pavanam Thomas

SBU24EC4SEC200: DATA VISUALISATION USING EXCEL AND TABLEAU

Type of Course	SEC		
Course Level	200-299		
Credit	3		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45		45
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand principles of data visualisation	U
CO2	Understand navigation in MS Excel	U
CO3	Apply basic formulas and functions in MS Excel	A
CO4	Evaluate and use different types of charts in MS Excel	E
CO5	Apply format and edit tools in Excel charts	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1			1		1				1	2
CO2			1		1					1
CO3			3		2				2	2
CO4			1		1			1		2
CO5			1		1					1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1		x		x		x
CO2		x	x	x		x
CO3	x		x	x	x	x
CO4	x				x	x
CO5		x	x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Getting Started with MS Excel (15 Hrs)				
Import data-Navigation- Page setup	1.1	2	2	Hands-on
Customise options and views-Quick Access toolbar-Worksheet tabs- Manage data cells and ranges	1.2	2	3	Hands-on
Format cells and ranges-Sorting-Filtering	1.3	3	2	Hands-on
Functions and Formulas	1.4	3	3	Hands-on
Function categories and Syntax-Logical functions and operators	1.5	3	3	Hands-on
Conditional Formatting-Pivot	1.6	3	2	Hands-on

Module 2: Principles of Data visualisation (15 Hrs)				
Coordinate Systems and Axes	2.1	1	2	Interactive Lecture
Visualising Amounts	2.2	1	2	Demonstrations
Visualising Distributions	2.3	1	2	Demonstrations
Visualising Proportions	2.4	1	2	Demonstrations
Visualising Associations	2.5	1	2	Demonstrations
Visualising Trends	2.6	1	2	Demonstrations
Visualising Geospatial Data	2.7	1	2	Demonstrations
Visualising Uncertainty	2.8	1	1	Demonstrations
Module 3: Charts in MS Excel and Tableau (15 Hrs)				
Column chart – Pie and Doughnut charts – Bar diagram – Area chart – Scatter plot– Candlestick chart– Radar chart	3.1	4	3	Hands-on
Grouped bar – Composite bar – Clustered bar – Stacked bar – Multiple bar - Combination chart – Clustered column – Heatmap	3.2	4	4	Hands-on
Pivot chart – Secondary axis – Switching rows and Columns – Editing legends, axis and labels – Format tools in Design Ribbon – Tools in format Data Series Menu	3.3	4	4	Hands-on
Advanced chart elements-Smart Art Interactive Dashboard	3.4	4	4	Hands-on
Module 4: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Schwabish, J. *Data Visualization in Excel.* CRC Press, 2023.
2. Wilke, C. O. *Fundamentals of Data Visualization.* O'Reilly Media, 2019.
3. Kusleika, D. *Data Visualization with Excel dashboards and reports.* Wiley, 2021.
4. McFedries, P. *Microsoft Excel formulas and functions.* Pearson, 2023.
5. Microsoft. *MS Excel User Manual 2016.* https://support.microsoft.com/en-us/excel

Reference

1. Slavio, J. *Microsoft Excel: Advanced Microsoft Excel data analysis for business.* Abiprod, 2019.
2. Aspin, A. *High Impact Data Visualization in Excel with Power View, 3D Maps, Get & Transform and Power BI.* Apress, 2016.
3. Winston, L. W. *Microsoft Excel 2019: Data analysis & Business model.* PHI Learning, 2019.

Course designed by: Dr. Jeril Tom

SBU24EC4VAC200: STRATEGIES FOR SUSTAINABLE DEVELOPMENT

Type of Course	VAC		
Course Level	200-299		
Credit	3		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45		45
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Critically analyse the core principles of sustainable development.	An
CO2	Examine environmental, social and economic perspectives to address sustainability challenges.	An
CO3	Evaluate and justify sustainable development strategies for various contexts.	E
CO4	Examine international initiatives on sustainable development	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2		1	2	2	2			1
CO2	2	2		1	1	2	2			1
CO3	2	2		1	1	2	2		1	1
CO4	2	1		1	1	1	2		1	1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x			X		x
CO2	x	x		x		x
CO3		x	x		x	X
CO4			x		x	

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Foundations of Sustainable Development (12 Hrs)				
Definition and principles of sustainable development	1.1	1	2	Interactive Lecture
Historical context and evolution	1.2	4	2	Interactive Lecture
Global challenges and the need for sustainable development	1.3	1	2	Interactive Lecture

Contemporary global issues: Pollution & Global warming - Ecological Footprints- Desertification and loss of arable land	1.4	1	3	Interactive Lecture
Overview of key international agreements and initiatives: SDGs - Montreal and Kyoto Protocol - International Environmental Treaties and Institutions- Paris Agreement- COP26 and Nationally Determined Contributions- Carbon trading	1.5	4	3	Interactive Lecture
Module 2 Mitigating Sustainability Challenges (15 Hrs)				
Conservation of natural resources and biodiversity	2.1	2	5	Interactive Lecture
Climate change: mitigation and adaptation	2.2	2	5	Interactive Lecture
Circular economy principles and waste management	2.3	2	5	Interactive Lecture
Module 3: Sustainable strategies in various contexts (18 Hrs)				
Sustainable strategies in various contexts: Sustainable business practices and CSR	3.1	3	6	Interactive Lecture
Monitoring and evaluation of sustainable development Projects	3.2	3	6	Interactive Lecture
Case studies of successful sustainable development Initiatives	3.3	3	6	Interactive Lecture
Module 4: Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. **This content will be evaluated internally.**				

Textbooks

1. Leal Filho, W., Rogers, J., & Iyer-Raniga, U. *Sustainable Development Research in the Asia-Pacific Region: Education, Cities, Infrastructure and Buildings.* 2019.
2. Van Bergeijk, P. A. G., & Van der Hoeven, R. *Sustainable Development Goals and Income Inequality.* 2017.
3. Daly, H. E. *Beyond Growth: The Economics of Sustainable Development.* 1996.

Reference

1. Stavins, R., editor. *Economics of the Environment: Selected Readings.* 5th ed., W. W. Norton, 2012.
2. Heal, G. "Reflections - Defining and Measuring Sustainability." *Review of Environmental Economics and Policy*, vol. 6, 2012, pp. 147-163.
3. Aldy, Joseph E., Alan J. Krupnick, Richard G. Newell, Ian W. H. Parry, and William A. Pizer. "Designing Climate Mitigation Policy." *Journal of Economic Literature*, vol. 48, no. 4, 2010, pp. 903–934.

Course designed by: Dr Pavanam Thomas

SEMESTER V

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
SBU24EC5DSC300	Major	Quantitative Techniques for Economic Analysis - II	5	75	4
SBU24EC5DSC301	Major	Economics of Growth and Development - I	5	75	4
SBU24EC5DSC302	Major	Indian Economy: Issues and Policy – I	4	60	4
SBU24EC5DSE300	Elective	Basic Econometrics	4	60	4
SBU24EC5DSE301	Elective	Institutional Economics	4	60	4
SBU24EC5DSE302	Elective	Money and Financial Markets	4	60	4
SBU24EC5DSE303	Elective	Economics of Gender	4	60	4
SBU24EC5SEC300	SEC	Game Theory and Strategic Behaviour	3	45	3

SBU24EC5DSC300: QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS - II

Type of Course	Major		
Course Level	300 - 399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)	Basic understanding of the probability theory		

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the concepts and laws in matrix algebra, apply the tools of matrix algebra to solve systems of linear equations, and discuss their application to economics.	A
CO2	Examine the types of theoretical probability distributions, their properties, and apply them in real-world situations.	An
CO3	Understand sampling distributions and its properties and apply them to solve real world problems	A
CO4	Explain the procedure of testing hypotheses and apply them to take business decisions.	A
CO5	Understand the concepts, the procedure of construction, and the process of base shifting and splicing in index numbers and apply them in relevant situation.	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2		2		1	2			2	1
CO2	2	2	2		1	2			2	1
CO3	2	2	2		1	2			2	1
CO4	2	2	2		1	2			2	1
CO5	2	2	2		1	2			2	1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2	x	x		x		x
CO3	x		x		x	x
CO4			x		x	x
CO5			x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1 Matrix Algebra (20 Hrs)				
Matrices-definition- types-square matrix row vector and column vector diagonal matrix triangular matrix symmetric and skew symmetric matrix	1.1	1	1	Interactive Lecture

Order of a matrix-properties of transpose of a matrix	1.2	1	1	Interactive Lecture
Matrix Algebra-addition, subtraction-multiplication of matrices- associative, distributive, and Commutative Properties of Matrix addition and multiplication	1.3	1	2	Interactive Lecture
Determinants-determinants up to order 3x3-properties of determinants-singular and non-singular matrices	1.4	1	2	Interactive Lecture
Minors and cofactors and adjoint of matrices - inverse of matrices -properties of inverse	1.5	1	2	Interactive Lecture
Representing system of equations in matrix form-solving system of equations using inverse--Solving system of equations using Cramers rule-National income determination model and market equilibrium model	1.6	1	2	Interactive Lecture
Practicum –Problem based assignment on matrix algebra and its applications in economics	1.7	1	10	Practicum
Module 2: Theoretical Probability Distributions (13 Hrs)				
Probability Distribution - Discrete and continuous- Expectation Var and Covariance -problems	2.1	2	2	Interactive Lecture
Binomial distribution properties –problems	2.2	2	2	Interactive Lecture
Poison distribution – properties	2.3	2	4	Interactive Lecture
Normal distribution- properties-standard normal distribution properties and problems	2.4	2	5	Interactive Lecture
Module 3: Theory of Estimation and Testing of Hypothesis (22 Hrs)				
Sampling distributions - z distribution-t distribution - Chi Square & F distributions	3.1	3,4	2	Interactive Lecture
Statistical inference Estimation – point and interval estimation-Methods of point estimation: Maximum Likelihood, Ordinary Least Squares Method of moments	3.2	3,4	2	Interactive Lecture
sampling distribution of sample mean-Central limit theorem-Confidence interval for mean	3.3	3,4	2	Interactive Lecture
Statistical hypothesis-null and alternative hypothesis -type I and type II errors; –level of significance	3.4	3,4	2	Interactive Lecture
one tailed and two tailed tests-P value- degrees of freedom-critical region- large sample and small sample tests	3.5	3,4	2	Interactive Lecture
Testing the given population mean-procedure and problems - Z and t test	3.6	3,4	2	Interactive Lecture
Practicum – problem based assignment based on testing of hypothesis	3.7	3,4	10	Practicum
Module 4: Index Numbers (20 Hrs)				
Index numbers importance and limitations; - Problems in construction	4.1	5	1	Interactive Lecture
un weighted price index numbers- Simple aggregative, simple average of price relatives	4.2	5	2	Interactive Lecture
Weighted index Numbers different methods of construction –-Laspeyre’s, Paache’s, Fisher’s and Marshall Edgeworth	4.3	5	3	Interactive Lecture
Tests of Index Numbers: Time Reversal and Factor Reversal Tests-Ideal index number	4.4	5	2	Interactive Lecture
Fixed base index number and chain-based index numbers base shifting and splicing	4.5	5	2	Interactive Lecture

Practicum -problem based assignment on Index numbers; base shifting and splicing of GDP series	4.6	5	10	Practicum work
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit, etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Chiang, A. C., & Wainwright, K. *Fundamental Methods of Mathematical Economics*. McGraw Hill, 2013.
2. Dowling, E. *Schaum's Outline of Introduction to Mathematical Economics*. 3rd ed., McGraw Hill Professional, 2000.
3. Levin, Richard I., et al. *Statistics for Management*. 7th ed., Pearson, 1998.
4. Aczel, Amir D., and Jayavel Sounderpandian. *Complete Business Statistics*. Tata McGraw Hill Education Private Limited, New Delhi, 2011.
5. Stephens, Larry, and M. Spiegel. *Schaum's Outline of Statistics*. 5th ed., McGraw Hill Education, 2014.
6. Salvatore, Domnic, and Derrick Reagle. *Schaum's Outlines Statistics and Econometrics*. 2nd ed., McGraw-Hill Education, 2011.
7. Sharma, J.K. *Quantitative Methods: Theory and Applications*. Macmillan Publishers India Ltd, New Delhi.

Reference

1. Keller, Gerald. *Statistics for Management and Economics*. Cengage Learning, 2014.
2. Ralph, James, et al. *A Practical Introduction to Index Numbers*. John Wiley & Sons, 2015.
3. McClave, James T., et al. *Statistics for Business and Economics*. Global Edition, Pearson, 2018.

Course designed by: Johnson K Joice

SBU24EC5DSC301: ECONOMICS OF GROWTH AND DEVELOPMENT – I

Type of Course	Major		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the basics of development economics and connect development, growth, poverty, inequality, as well as the underpinnings.	U
CO2	Interpret the foundational and contemporary debates on growth and development theory and policy.	A
CO3	Apply the theories in growth and development to engage with real-world questions.	An
CO4	Analyze essential tools and concepts of development economics, and indicate what makes underdevelopment persist and what helps development succeed.	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2					2				
CO2	2	2				2		2		
CO3	2	2				2		2		
CO4	2	2				2		2		

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x			x	x
CO2	x	x			x	x
CO3			x	x	x	x
CO4			x	x	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Economic Development – An Overview (19 Hrs)				
Growth and Development Approaches and dimensions Structural changes	1.1	1	1	Lecture
Indicators and measurement issues	1.2	1	1	Lecture Discussion
Characteristics of developing world: Then and now	1.3	1	2	Lecture Case Studies

Hausmann-Rodrik-Velasco Growth Diagnostics Framework	1.4	1	2	Lecture
Kuznet's characteristics of modern economic growth	1.5	1	2	Lecture Case Studies
Development Indicators: HDI, IHDI, HHI	1.6	1	2	Lecture Demonstration
Basic needs approach	1.7	1	1	Lecture
Sen's capability approach	1.8	1	1	Lecture
Practicum	1.9	1	7	Practicum work
Module 2: The Development Gap and the Analysis of Inequality and Poverty (20 Hrs)				
The development gap- dimensions of development gap	2.1	2	2	Lecture
Concepts of inequality- Global inequality	2.2	2	2	Lecture Discussion
World bank country classifications and analysis of historical trends	2.3	2	2	Lecture
The Kuznets inverted -U hypothesis	2.4	2	1	Lecture
Measures of inequality-Lorenz curve- Gini coefficient-Palma ratio-Hoover Index	2.5	2	2	Lecture Demonstration
Poverty – absolute and relative - measurement of poverty-HPI – MPI	2.6	2	2	Lecture Demonstration
Poverty and development interconnections	2.7	2	1	Lecture
Practicum	2.8	2	8	Practicum work
Module 3: Theories of Economic Growth (18 Hrs)				
Classical growth theory (Smith, Malthus and Ricardo)	3.1	3	3	Lecture
Karl Marx and development of capitalistic economy	3.2	3	3	Lecture Debate
Schumpeter's analysis of growth	3.3	3	2	Lecture
Rostow's stages of growth theory	3.4	3	2	Lecture
Practicum	3.5	3	8	Practicum work
Module 4: Approaches to Development (18 Hrs)				
Vicious circle of poverty	4.1	4	1	Lecture Case studies
Low level equilibrium trap	4.2	4	2	Lecture
Critical minimum effort thesis	4.3	4	2	Lecture
Doctrines of balanced growth	4.4	4	1	Lecture
Unbalanced growth theory	4.5	4	1	Lecture
Big push theory	4.6	4	1	Lecture
Dualism	4.7	4	1	Lecture Inquiry based learning
Structural change models-Two- sector model of Arthur Lewis	4.8	4	1	Lecture
Fei Ranis model	4.9	4	1	Lecture Case Studies
Practicum	4.10	4	7	Practicum work
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Ray, D. *Development Economics.* Oxford University Press,1999.
2. Thirlwall, A. P.*Growth and Development with special reference to Developing Economies.* Palgrave Macmillan, 2009.
3. Todaro, M. P., & Smith, S. C. *Economic Development* (8th ed.). Pearson Education, New Delhi, 2005.

Reference

1. Higgins, B. *Economic Development.* Universal Book Stall, New Delhi, 1998.
2. Meier, G. M. *Leading issues in Economic Development.* Oxford University Press, New Delhi, 2007.
3. Nafziger, E. Wayne. *Economic Development* (5th ed.). Cambridge University Press, 2012.
4. Ghatak, S. *Introduction to Development Economics.* Routledge, London, 1998.
5. UNDP. *Human Development Reports.* https://hdr.undp.org/

Course designed by: Dr Jeril Tom & Dr Shinu Varkey

SBU24EC5DSC302: INDIAN ECONOMY: ISSUES AND POLICY – I

Type of Course	Major		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60	0	60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Discover pre-independence development, post-independence growth, sectoral contributions, national income estimation, and saving and investment trends critically.	E
CO2	Examine agriculture post-independence, including crops, zones, land reforms, technology, cooperatives, WTO impact, agrarian crisis, food subsidies, and non-farm sector issues.	An
CO3	Critically analyse post-independence industry evolution, policies, privatization, MSMEs, Make in India, clustering, financing, and physical infrastructure roles.	An
CO4	Evaluate population dynamics, migration trends, employment dynamics, and labour market reforms	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2		2	2	2	2	1		1
CO2	2	2			2	2	2	1		1
CO3	2	2		2	2	2	2	1		1
CO4	2	2			2	2	2	1		1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1		x		x		x
CO2			x	x		x
CO3	x				x	x
CO4	x				x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Economic Growth, Structure and Reforms (15 Hrs)				
Pre- independence development experience	1.1	1	3	Interactive lecture
Growth in the post- independence era - emerging structure – contribution of different sectors to output, employment and income	1.2	1	5	Flipped classroom

National income, methodological issues in estimation-recent revision	1.3	1	4	Flipped classroom
Saving and investment, trend and pattern	1.4	1	3	Interactive lecture
Module 2: Module II Agriculture and Allied Sectors (15 Hrs)				
Agriculture Performance since independence, across crops and zones	2.1	2	2	Interactive lecture
Land reforms	2.2	2	2	Interactive lecture
Technological change in agriculture	2.3	2	2	Flipped classroom
Agriculture finance	2.4	2	1	Flipped classroom
Role of co-operatives	2.5	2	1	Interactive lecture
Agriculture marketing-, pricing	2.6	2	2	Interactive lecture
WTO and agriculture	2.7	2	1	Interactive lecture
Agrarian crisis	2.8	2	1	Flipped classroom
food security- food subsidy and public distribution system-	2.9	2	1	Interactive lecture
Non farm sector-Significance, Emerging Issues	2.10	2	2	Interactive lecture
Module 3: Industry and Infrastructure (15 Hrs)				
Evolution of industries in the post-independence period-industrial performance-pattern of growth and structural change	3.1	3	3	Interactive lecture
Industrial policies	3.2	3	2	Interactive lecture
Privatization and disinvestment	3.3	3	1	Interactive lecture
regional distribution of industries-	3.4	3	1	Flipped classroom
MSME- evolution –policies and performance	3.5	3	2	Interactive lecture
Critical Assessment of Make in India Policy-	3.6	3	1	Interactive lecture
Industrial clustering- SEZ	3.7	3	1	Flipped classroom
Financing: industry and infrastructure – PPP	3.8	3	2	Interactive lecture
Physical infrastructure - transport-energy – telecommunication – information technology-	3.9	3	2	Interactive lecture
Module 4: Population and Employment (15 Hrs)				
Population- growth pattern, implications	4.1	4	3	Interactive lecture
Rural urban migration	4.2	4	3	Interactive lecture
Population policies	4.3	4	3	Flipped classroom
Trends in employment – unemployment, nature and policies- recent employment generation programmes	4.4	4	3	Interactive lecture
Changing nature of labour market, reforms	4.5	4	3	Interactive lecture
Module 5: Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. This content will be evaluated internally.				

Textbooks

1. Datt, G., & Mahajan, A. *Indian Economy.* 72nd edition, S Chand Publishing: New Delhi, 2020.
2. Kapila, U. *Indian Economy: Performance and Policies.* 22nd edition, Academic Foundation: New Delhi, 2021.

Reference

1. *Economic Survey of India.* Various rounds. Ministry of Finance, Govt of India: New Delhi. Available at: https://www.indiabudget.gov.in/economicsurvey/

2. *Handbook of Statistics on the Indian Economy.* Various rounds. RBI: Mumbai. Available at: https://www.rbi.org.in/

Course designed by: Dr Pavanam Thomas

SBU24EC5DSE300: BASIC ECONOMETRICS

Type of Course	DSE		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the methodology of econometrics and rudiments of statistical estimates	U
CO2	Estimate regression coefficients and fit a curve to economic data	A
CO3	Interpret and report research findings to academic and general public	An
CO4	Assess the nature, causes, consequences, detection and remedies of autocorrelation, heteroskedasticity, and multicollinearity	A
CO5	Experiment on the extensions of regression analysis to infer on the process of econometric modelling	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	1			2	3					2
CO2				2	3				1	3
CO3				2	2				2	3
CO4				2	2				1	2
CO5				1	2				1	2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1		x	x	x		x
CO2	x		x	x		x
CO3	x		x		x	x
CO4		x	x		x	x
CO5		x	x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Introduction to Econometrics (15 Hrs)				
Definition and Scope of Econometrics	1.1	1	3	Interactive Lecture
Methodology of econometric research	1.2	1	3	Interactive Lecture
Deterministic and stochastic model	1.3	1	3	Interactive Lecture
Basic concepts of estimation - Point estimation and interval estimation	1.4	1	3	Demonstration

Properties of estimators - unbiasedness, efficiency, consistency and sufficiency	1.5	1	3	Demonstration
Module 2: Regression and the Method of Least Squares (20 Hrs)				
Two variable Regression Model	2.1	2	2	Problem-Based Learning
Regression equations and regression lines - 'y on x' and 'x on y'	2.2	2	2	Problem-Based Learning
Simple Keynesian Model	2.3	2	2	Problem-Based Learning
PRF	2.4	2	1	Interactive Lecture
SRF	2.5	2	1	Interactive Lecture
Estimation of an equation - OLS method	2.6	2, 3	2	Hands-on
Assumptions	2.7	2	2	Interactive Lecture
Gauss Markov theorem	2.8	2	2	Interactive Lecture
Reporting the result	2.9	2, 3	2	Hands-on
Multiple regression model - Assumptions	2.10	2	2	Interactive Lecture
Estimation - interpretation	2.11	2, 3	1	Hands-on
R2 and Adjusted R2	2.12	2, 3	1	Interactive Lecture
Module 3: Extensions of Regression Analysis (10 Hrs)				
Regression through origin	3.1	5	3	Hands-on
Different functional forms of regression models and their use	3.2	5	4	Problem-Based Learning
Scaling and units of measurements	3.3	5	3	Hands-on
Module 4: Problems in Regression Analysis (15 Hrs)				
Hetroscedasticity: Nature	4.1	4	2	Interactive Lecture
Causes	4.2	4	1	Interactive Lecture
Consequences	4.3	4	1	Interactive Lecture
White's test	4.4	4	1	Hands-on
Autocorrelation: Nature	4.5	4	2	Interactive Lecture
Causes	4.6	4	1	Interactive Lecture
Consequences	4.7	4	1	Interactive Lecture
Durbin Watson d	4.8	4	1	Hands-on
Multicollinearity: Nature	4.9	4	2	Interactive Lecture
Causes	4.10	4	1	Interactive Lecture
Consequences	4.11	4	1	Interactive Lecture
VIF	4.12	4	1	Hands-on
Module 5 Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. **This content will be evaluated internally.**				

Textbooks

1. Gujarati, D. N., Porter, D. C., & Pal, M. *Basic Econometrics* (6th ed.). McGraw Hill: Noida, 2020
2. Studenmund, A. H. *Using Econometrics: A Practical Guide* (7th ed.). Pearson, 2017

Reference

1. Gujarati, D. N. *Econometrics by Example* (2nd ed.). Palgrave Macmillan, 2016
2. Gupta, S. C. *Fundamentals of Statistics* (7th ed.). Himalaya Publishing House: New Delhi, 2018

3. Wooldridge, J. M. *Introductory Econometrics: A Modern Approach* (5th ed.). Cengage Learning India, 2012
4. Watson, M. W., & Stock, J. H. *Introduction to Econometrics* (3rd ed.). Pearson, 2017

Course designed by: Dr. Jeril Tom

SBU24EC5DSE301: INSTITUTIONAL ECONOMICS

Type of Course	DSE		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand and be able to discuss how the study of institutions enriches our understanding of economic theory	U
CO2	Analyse the state's role in facilitating institutional change, and assess governance strategies for development	An
CO3	Analyse property and rights, their importance, decentralization, contracts, and recognition of institutional roles and cultural influences.	An
CO4	Analyze the concept of transaction costs, evaluate public policy in the insurance sector and its impacts on social, ecological, and environmental issues, and examine institutional failures in development economics.	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3					3				
CO2	2	1			1	2		2		1
CO3	2	1			1	2		2		1
CO4	2	1		2	1	2	2		2	1
CO5										

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2		x		x	x	x
CO3	x		x		x	x
CO4	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Introduction to Institutional Economics (15 Hrs)				
Nature and scope of institutional economics	1.1	1	2	Interactive lecture
Historic development of Institutional Economics- Institutional Economics as a departure from Neo-Classical and Marxian Economics	1.2	1	5	Interactive lecture

Old and New Institutional Economics- Core issues in New Institutional Economics	1.3	1	4	Interactive lecture
Institutional Change Theories-Economic Agents and Institutional Environment-Individuals, Firms, and Governments in Institutional Analysis-Legal and Regulatory Frameworks-Social Norms and Culture in Economic Behaviour	1.4	1	4	Interactive lecture
Module 2: Development and Institutional Economics (15 Hrs)				
Role of state in the process of institutional change. Social Capital and Economic Development	2.1	2	5	Interactive lecture
Governance for development. Economics of corruption-principal-agent framework-incentive structures The threat system and authority; collusion, pre-emptive collusion and ex-post collusion Rent-seeking behavior, and free-riding.	2.2	2	5	Interactive lecture
Welfare implications of corruption	2.3	2	5	Discussion
Module 3: Fundamental Institutions: Property, Decentralisation, and Contract (15 Hrs)				
Concepts of Property and defining Property Rights	3.1	3	5	Interactive lecture
Problems of ill-defined Property rights Externalities-Market failure and property right Social vis-à-vis Individual Choices Neo- classical Maximisation vis-à-vis Methodological Individualism	3.2	3	5	Interactive lecture
Decentralisation and Contracts –Religion Individuals, Firms, and Governments in Institutional Analysis-Legal and Regulatory Frameworks-Social Norms and Culture in Economic Behaviour (Concepts Only)	3.3	3	5	Interactive lecture
Module 4: Module –IV Institutions in Practice (15 Hrs)				
Issues relating to transaction costs, social cost vis-à-vis individual costs-Network Theory	4.1	4	4	Interactive lecture
Identification and measurements of transaction costs - Coase Theorem - Bounded Rationality	4.2	4	4	Interactive lecture
Static and dynamic institutional change firms and markets; state intervention	4.3	4	3	Interactive lecture
Public Policy - Insurance Sector - Social issues - Ecological and Environmental Issues	4.4	4	2	Interactive lecture
Institutional failures in development economics	4.5	4	2	Interactive lecture
Module 4: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. North, D. C, *Institutions, Institutional change and Economic Performance.* Cambridge University Press,1990
2. Geoffrey M. Hodgson, *The Evolution of Institutional Economics (Economics as Social Theory) 1st Edition*, Routledge, 2004

3. Wolfgang Kasper, Manfred E. Streit, and Peter J. Boettke, *Institutional Economics: Property, Competition, Policies, Second Edition*, Edward Elgar,2012
4. Kapp William,*The Foundations of Institutional Economics* , Routeledge, 2011
5. Schmid Allan, *Conflict and Cooperation: Institutional and Behavioral Economics,* Blackwell Publishing,2004

Reference

1. Greif, A, I*nstitutions and the path to the Modern Economy: Lessons from Medieval Trade.* Cambridge University Press, 2006
2. North, D. C, *Understanding the process of Economic Change.* Princeton University Press,2005
3. Groenewegen John et. al, *Institutional Economics: An Introduction* Palgave
4. Macmillan, 2010
5. Malcolm Rutherford, *Institutions in Economics*, Cambridge University Press,1996

Research Articles

1. Williamson, O. E, *The new institutional economics: Taking stock, looking ahead*. Journal of Economic Literature, 38(3), 2000
2. Acemoglu, D., Johnson, S., & Robinson, J. A, Institutions as a Fundamental Cause of Long-run Growth. In P. Aghion & S. N. Durlauf (Eds.), Handbook of Economic Growth (Vol. 1, pp. 385-472). Elsevier,2005
3. Coase, R. H, T*he Nature of the Firm*. Economica, 4(16), 386-405,1937
4. Rodrik, D, *Institutions for high-quality growth: What they are and how to acquire them*. Studies in Comparative International Development, 35(3), 3-31, 2000
5. Hodgson, G. M, *What are Institutions?* Journal of Economic Issues, 40(1), 1-25,2006

Course Designed by: Johnson K Joice

SBU24EC5DSE302: MONEY AND FINANCIAL MARKETS

Type of Course	DSE		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the structure, functions, institutions and markets in the financial system relating it with of India	U
CO2	Analyze the historical evolution and critique the emerging trends of banking and its regulatory framework in India and appraise its structure and functions	An
CO3	Understand the functioning of RBI and interpret its monetary policy review	E
CO4	Understand the functioning of money market and classify its instruments and features across sub-markets and connect it with the case of India	An
CO5	Understand the structure, functioning and instruments of capital market institutions and classify the institutions therein and connect it with the case of India	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1		2				1	2			
CO2	1	1					2			1
CO3				1			1		1	
CO4	1	1		1		1	1			
CO5	1	1		1		1	1			

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1	x	x	x	x		x
CO2			x	x		x
CO3			x		x	x
CO4		x	x		x	x
CO5	x	x	x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Financial System (10 Hrs)				
Financial system-meaning and functions	1.1	1	2	Interactive Lecture

Structure of Indian Financial System	1.2	1	3	Interactive Lecture
Banks	1.3	1	3	Interactive Lecture
NBFIs	1.4	1	2	Interactive Lecture
Module 2: Banking (20 Hrs)				
Commercial banking in India- Evolution	2.1	2	1	Interactive Lecture
Structure	2.2	2	1	Interactive Lecture
Functions	2.3	2	1	Interactive Lecture
RBI – functions	2.4	2	1	Interactive Lecture
Monetary policy Instruments	2.5	2	1	Inquiry-Based Learning
Co-operative banking	2.6	2	1	Case Studies
NABARD	2.7	2	1	Interactive Lecture
RRBs	2.8	2	1	Interactive Lecture
Nationalisation	2.9	2	1	Interactive Lecture
Liberalisation	2.10	2	1	Interactive Lecture
Narasimham Committee Reports	2.11	2	1	Interactive Lecture
Basel Norms	2.12	2	1	Interactive Lecture
Financial inclusion	2.13	2	1	Group Discussions
Non-Performing Assets	2.14	2	1	Case Studies
Digital Payment System in India	2.15	2	1	Demonstrations
banking-ombudsman	2.16	2	1	Flipped Classroom
Bank portfolio Management	2.17	2	1	Interactive Lecture
Real Bills Doctrine	2.18	2	1	Interactive Lecture
Shiftability theory	2.19	2	1	Interactive Lecture
Anticipated Income theory	2.20	2	1	Interactive Lecture
Module 3: Money market (10 Hrs)				
Money Market-Functions	3.1	3	2	Interactive Lecture
Structure of money market	3.2	3	2	Interactive Lecture
Features of Indian Money Market	3.3	3	2	Interactive Lecture
Components	3.4	3	2	Interactive Lecture
Instruments	3.5	3	2	Jigsaw Method
Module 4: Capital market (20 Hrs)				
Capital market-meaning and composition	4.1	4	2	Interactive Lecture
Major financial instruments-equity shares and preference shares, debentures and bonds	4.2	4	2	Jigsaw Method
Mutual Funds - G.D. Rs and A.D.Rs	4.3	4	1	Interactive Lecture
Forex market	4.4	4	1	Interactive Lecture
FDI and FIIs	4.5	4	1	Interactive Lecture
Derivatives - forward and futures, options, swaps	4.6	4	1	Problem-Based Learning
Primary Market	4.7	4	1	Interactive Lecture
listing of securities	4.8	4	1	Interactive Lecture
methods of public issue	4.9	4	1	Jigsaw Method
IPO and FPO	4.10	4	1	Case Studies
Trading Process	4.11	4	1	Demonstrations
Stock Exchanges - BSE- NSE	4.12	4	2	Interactive Lecture
SENSEX and Nifty	4.13	4	1	Interactive Lecture
Commodity Exchanges- ETF	4.14	4	1	Interactive Lecture

Dematerialisation – Depositories	4.15	4	1	Interactive Lecture
Credit rating agencies	4.16	4	1	Interactive Lecture
Role of SEBI	4.17	4	1	Interactive Lecture
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Mishkin, F. S., & Eakins, G. *Financial Markets and Institutions* (6th ed.). Pearson Education, 2009.
2. Bhole, L. M., & Mahukud, J. *Financial Institutions and Markets* (5th ed.). Tata McGraw Hill, 2011.
3. Parameswaran, R. *Indian Banking*. S. Chand & Company, 2010.
4. Khan, M. F. *Indian Financial Institutions*. Tata McGraw Hill Ltd, 2006.
5. Avadhani, V. A. *Fundamentals of Money and Banking*. Himalaya Publishing House, 2009.

Reference

1. Hajela, T. N. M*oney and banking*. Ane Books Pvt Ltd, 2009.
2. Sayers, R. S. *Modern banking*. Oxford University Press, 1977.
3. Harris, C. L. *Money and banking*. Allyn and Bacon, 1961.
4. Reserve Bank of India. *Bulletins, Reports on Currency and Finance and other reports and data releases*. https://rbi.org.in/

Course designed by: Dr. Jeril Tom

SBU24EC5DSE303: ECONOMICS OF GENDER

Type of Course	DSE		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand gender concepts, examining the dynamics of gender in development	U
CO2	Analyse gender issues in the labour market perspective	An
CO3	Understand the significance of gender policy at national, regional, and global levels, analyzing gender budgeting practices, examining the intersection of gender with the Sustainable Development Goals	An
CO4	Understand the mechanisms for protecting property rights, evaluating schemes for creating safety nets for women,	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E – Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2		1		3				
CO2	2	2			1	2	2		1	1
CO3	2	2		1	1	2	2		1	1
CO4	3	2		1	1	2	2	2	1	1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2		x		x	x	x
CO3	x		x		x	x
CO4			x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Gender role in development (15 Hrs)				
Definition of Gender- Gender and sex - Gender Equity and Gender Equality	1.1	1	3	Interactive Lecture
The subject of Gender Economics-Interdisciplinary Approach in gender studies-	1.2	1	3	Interactive Lecture
Incorporation of gender factor into HDI-Gender equality indices- Gender Development Index (GDI) and Gender Empower Measure (GEM).	1.3	1	4	Interactive Lecture
Women's contribution to GDP	1.4	1	2	Discussion

The gender factor in demographic development-Global demographic changes-Gender shift	1.5	1	3	Discussion
Module 2: Gender and Labour market Issues (15 Hrs)				
Women's Labor Force Participation: Historical and Current Trends	2.1	2	4	Interactive Lecture
The Gender Gap in Earnings: Theoretical Issues, Human Capital explanation for Gender Gap in earnings and Empirical Evidence	2.2	2	3	Interactive Lecture
Unpaid Work and Caregiving-Gendered division of household labor-Economic value of unpaid work-Policies to recognize and reduce the burden of unpaid work on women	2.3	2	4	Discussion
Gender and Entrepreneurship-Gender gaps in entrepreneurship rates and success-Barriers to women's entrepreneurship Policies to promote women's entrepreneurship and business ownership	2.4	2	4	Discussion
Module 3: Gender Analysis and Public Policy (15 Hrs)				
Gender policy: national, regional and global level	3.1	3	5	Interactive Lecture
Gender Budgeting; Gender and the Sustainable Development Goals	3.2	3	3	Interactive Lecture
Measuring Gender Gaps: GDI, GII, GGI, GEM	3.3	3	3	Interactive Lecture
A project report presentation and discussion on gender budgeting aspect in the budget of a local body	3.4	3	4	Discussion
Module 4 Social Protection for Women (15 Hrs)				
Protection of property rights- schemes for safety net for women- Effectiveness of collective bargaining	4.1	4	5	Interactive Lecture
Public and private programmes to improve women's health National Commission for Women (NCW) The National Credit Fund for Women-Mahila Samridhi Yojana (MSY) National policy for empowering women- International measures to protect women's' rights U.N Decade for women -UN convention on CEDAW and DEVAW.	4.2	4	10	Interactive Lecture
Module 4: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Text Books

1. Jacobsen, J, *The Economics of Gender*, Cambridge: Wiley Blackwell, 2007
2. Saul D. Hoffman and Susan L. Averett. *Women and the Economy: Family, Work, and Pay, 3rd ed*. London: Palgrave, 2016
3. Bettio, F. Verashchagina, A. *Frontiers in the Economics of Gender*, Routledge, 2008
4. Sen, Sujatha Gender *Studies*, Dorling Kindersley (India) Pvt. Ltd, New Delhi, 2012

5. Kalpagam, U, *Gender and Development in India: Current Issues*. Rawat Publications, 2011

Reference

1. 1 Suvarna Sen, *Gender and Development*- ICFAI University Press, Hyderabad
2. 2 Chakraborty L, *Covid19 and Gender Budgeting: Applying a "gender lens" to Union Budget in India (W.P No. 362)*. National Institute of public Finance and policy (NIPFP).
3. 3 Becchio, G, *A History of Feminist and Gender Economics.* New York: Routledge, 2020
4. Beneria, L., & Biswanath, S, *Gender and Development: Theoretical, Empirical and Practical Approaches*, 2001

Reports

1. UN Gender Statistics and Development. Retrieved from http://www.unece.org/stats/gender/web
2. UN Population Information Network (POPIN). Retrieved from http://www.un.org/popin
3. UN Women. Retrieved from http://www.un.org/ru/aboutun/structure/unwomen/
4. NIPFP. Retrieved from www.nipfp.org.in
5. UNDP - Human Development Reports.

Course Designed by: Johnson K Joice

SBU24EC5SEC300: GAME THEORY AND STRATEGIC BEHAVIOUR

Type of Course	SEC		
Course Level	300-399		
Credit	3		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45		45
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the fundamental principles, concepts, and techniques of game theory, and apply them to analyze various strategic interactions.	U
CO2	Analyze and solve sequential-move games using game trees, and simultaneous-move games through the Nash equilibrium concept, dominance, and best-response analysis.	An
CO3	Evaluate strategic moves and their credibility, including the concepts of commitment, threats, and promises, and develop strategies to counter opponent's moves effectively.	E
CO4	Analye the real-world dilemmas through the lens of game theory, with a focus on the Prisoner's Dilemma and its applications in various contexts such as evolutionary biology, economics, and international relations.	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2					2				
CO2	2		2			2			2	
CO3	2		2			2			2	
CO4	2		2			2			2	

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x	x	x		x
CO2	x	x	x	x		x
CO3	x		x		x	x
CO4	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Game Theory - Concepts and Techniques - I (15 Hrs)				
Game theory: definition, classifying games – some terminology and background assumptions.	1.1	1	3	Lecture

Games with sequential moves – game trees - solving games by using trees	1.2	1	3	Lecture, Problem based learning
Simultaneous-move games with discrete strategies - Nash equilibrium –dominance – best-response analysis - multiple equilibria in pure strategies - no equilibrium in pure strategies - critical discussion of the Nash equilibrium concept – rationalizability.	1.3	1,2	9	Lecture, Problem based learning
Module 2: Game Theory: Concepts and Techniques – II (15 Hrs)				
Combining sequential and simultaneous moves - games with both simultaneous and sequential moves	2.1	2	3	Lecture, Problem based learning
Changing the order of moves in a game - change in the method of analysis.	2.2	2	3	Lecture, Problem based learning
Simultaneous-move games: mixed strategies - what is a mixed strategy? Mixing moves – Nash equilibrium as a system of beliefs and responses – mixing in non-zero-sum games - how to use mixed strategies in practice.	2.3	2	9	Lecture, Problem based learning
Module 3: Strategic Moves and Prisoner's Dilemma (15 Hrs)				
Strategic Moves - classification of strategic moves	3.1	3	2	Lecture
Credibility of strategic moves – commitment - threats and promises - acquiring credibility	3.2	3	3	Lecture
Countering your opponent's strategic moves	3.3	3	3	Lecture
The Prisoners' Dilemma and Repeated Games - the basic game - solutions I: repetition - solutions II: penalties and rewards, solutions III: leadership. Real-world dilemmas -evolutionary biology, price matching, international environmental policy: the Kyoto protocol.	3.4	4	7	Lecture, Problem based learning
Module 4: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbook

1. Dixit, Avinash; Susan Skeath and David Reiley, *Games of Strategy* 4th Ed, W. W. Norton & Company: New York, 2015.

Reference

1. Martin J. Osborne, An Introduction to Game Theory, Oxford University Press, New Delhi, 2004.
2. Hugh Gravelle and Ray Rees, Microeconomics, Pearson Education, 3rd edition, 2004.
3. Robert Gibbons, Game Theory for Applied Economists, Princeton University Press, 1992.
4. Prajit Dutta, Strategies and Games - Theory and Practice, MIT Press, 1999
5. S. Tadelis, Game theory: An introduction, Princeton University Press, 2013

Course designed by: Dr Shinu Varkey

SEMESTER VI

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
SBU24EC6DSC300	Major	International Economics	5	75	4
SBU24EC6DSC301	Major	Public Economics	5	75	4
SBU24EC6DSE300	Elective	Statistical Inference for Decision making	4	60	4
SBU24EC6DSE301	Elective	Entrepreneurship and Innovation	4	60	4
SBU24EC6DSE302	Elective	Environmental Economics and Human Rights	4	60	4
SBU24EC6DSE303	Elective	Foundations of Credit Assessment and Risk Management	4	60	4
SBU24EC6SEC300	SEC	Introduction to R for Economic Data Analysis	3	45	3
SBU24EC6VAC300	VAC	An Introduction to Impact Evaluation of Economic Policies and Programs	3	45	3

SBU24EC6DSC300: INTERNATIONAL ECONOMICS

Type of Course	Major		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the basics of international economics, including trade types, free trade vs protection, indifference curve, offer curve, terms of trade, and gains from trade.	U
CO2	Examine international trade theories	An
CO3	Analyse foreign exchange and balance of payments, including forex markets, exchange rates, regimes, balance of Payment structure, equilibrium, disequilibrium measures, and elasticity approaches.	An
CO4	Examine global financial, trade systems and multilateral trade arrangements.	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3					3		1		1
CO2	2	2				2				1
CO3	2	2			1	2		1		1
CO4	2	2			1	2		1		1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1		x	x	x		x
CO2		x	x	x		x
CO3	x				x	x
CO4	x				x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Basic Concepts (15 Hrs)				
International Economics: Nature and Scope	1.1	1	1	Interactive lecture
Internal and International Trade -An Overview of World Trade	1.2	1	1	Interactive lecture
Inter Industry Trade and Intra- industry Trade	1.3	1	1	Flipped classroom
Free Trade vs Protection	1.4	1	1	Interactive lecture
Community Indifference Curve	1.5	1	1	Interactive lecture
Offer Curve	1.6	1	1	Interactive lecture

Terms of Trade–meaning and types	1.7	1	1	Flipped classroom
Gains from trade – static and dynamic gains	1.8	1	1	Flipped classroom
Practicum	1.9	1	7	Practicum work
Module 2 Theories of International Trade (20 Hrs)				
Mercantilism	2.1	2	1	Interactive lecture
Absolute Cost Advantage Theory	2.2	2	1	Interactive lecture
Comparative Cost Advantage theory	2.3	2	3	Flipped classroom
Opportunity Cost Theorem	2.4	2	2	Interactive lecture
Heckscher – Ohlin theory	2.5	2	3	Interactive lecture
Factor Price Equalization Theorem	2.6	2	1	Interactive lecture
Leontief Paradox	2.7	2	1	Flipped classroom
Factor intensity reversal	2.8	2	1	Interactive lecture
Practicum	2.9	2	7	Practicum work
Module 3: Foreign Exchange and Balance of Payments (25 Hrs)				
Foreign exchange markets: Meaning and Functions	3.1	3	1	Interactive lecture
Forex Market Participants	3.2	3	1	Flipped classroom
Demand and Supply of Foreign Exchange	3.3	3	2	Interactive lecture
Defining exchange rate: price and volume quotation -real, nominal and effective exchange rate	3.4	3	2	Flipped classroom
Exchange rate regimes: fixed floating and managed floating exchange rate	3.5	3	2	Interactive lecture
Theories of exchange rate determination: Mint Parity	3.6	3	1	Interactive lecture
Purchasing power parity theory	3.7	3	1	Interactive lecture
Devaluation, revaluation, depreciation and appreciation	3.8	3	1	Flipped classroom
Meaning and structure of balance of payments	3.9	3	1	Interactive lecture
Equilibrium and disequilibrium in the balance of payments- measures to correct disequilibrium	3.10	3	2	Flipped classroom
Elasticity and Absorption approaches	3.11	3	3	Interactive lecture
Practicum	3.12	3	8	Practicum work
Module 4: International Financial and Trade Systems (15 Hrs)				
Gold standard	4.1	4	1	Interactive lecture
Bretton Woods System- IMF -World Bank-	4.2	4	1	Interactive lecture
ADB, and BRICS Bank	4.3	4	1	Interactive lecture
Economic Integration- EU, ASEAN, BRICS, RCEP	4.4	4	2	Flipped classroom
Multilateral trade arrangements -UNCTAD- GATT- WTO	4.5	4	2	Interactive lecture
Practicum	4.6	4	8	Practicum work
Module 5 Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. This content will be evaluated internally.				

Textbooks

1. Salvatore, D. *International Economics* (8th ed.). Wiley India, New Delhi, 2008
2. Appleyard, D. R., & Field, A. J. *International Economics* (8th ed.). McGraw Hill, New Delhi, 2014
3. Krugman, P. R., & Obstfeld, M. *International Economics: Theory and Policy* (8th ed.). Pearson, Dorling Kindersley (India) Pvt. Ltd, New Delhi, 2009
4. Soderston, B., & Reed, G. *International Economics* (3rd ed.). MacMillan Press Ltd. London, 1994

Reference

1. Feenstra, R. C. *Advanced International Trade: Theory and Evidence*. Princeton University Press, Princeton, 2004
2. Carbaugh, R. J. *International Economics* (11th ed.). Thomson South Western, New Delhi, 2008

Course Designed by: Dr Shinu Varkey & Dr Pavanam Thomas

SBU24EC6DSC301: PUBLIC ECONOMICS

Type of Course	Major		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the concept of market failure and demonstrate the role of government to correct market failure	U
CO2	Analyse the role and scope of public finance and illustrate the economic functions of government	An
CO3	Examine the rationale for the existence of modern governments and infer micro and macro aspects of public debt	An
CO4	Infer the concepts and principles of taxation and to examine the contribution of tax and non tax revenue to public exchequer and the impact of public policy on the allocation of resources, budgetary procedures and stabilization instruments.	An
CO5	Understand fiscal federalism and assess the role of finance commission.	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3					3				
CO2	2	2			2	2		2		2
CO3	2	2			2	2		2		2
CO4	2	2			2	2		2		2
CO5	2	2			2	2		2		2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1		x	x	x		x
CO2		x	x	x		x
CO3	x	x		x		x
CO4	x	x			x	x
CO5	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Introduction to Public Economics (15 Hrs)				
Meaning and scope of Public Economics	1.1	1	3	Interactive lecture
Functions of Government	1.2	1	3	Interactive lecture

Private goods and public goods	1.3	1	3	Interactive lecture
Externality and Market failure and the role of government	1.4	1	3	Interactive lecture
Provision of public goods - Principles of Maximum Social Advantage	1.5	1	3	Interactive lecture
Module 2: Public Expenditure and Public Debt (20 Hrs)				
Public Expenditure: meaning	2.1	2	1	Interactive lecture
Canon's of Public Expenditure	2.2	2	1	Interactive lecture
Theories of public Expenditure Wagner's Hypothesis	2.3	2	1	Interactive lecture
Peacock - Wiseman Hypothesis	2.4	2	1	Interactive lecture
Critical limit hypothesis	2.5	2	1	Interactive lecture
Effects of Public Expenditure	2.6	2	2	Interactive lecture
Public Debt- Types	2.7	2	1	Interactive lecture
Debt redemption	2.8	2	1	Interactive lecture
Burden of public debt	2.9	2	1	Interactive lecture
Public expenditure and public debt management in India: pattern and growth Practicum	2.10	2	10	Interactive lecture Practicum work
Module 3: Public Revenue (20 Hrs)				
Sources of Public Revenue- Tax and Non Tax Sources	3.1	3	1	Interactive lecture
Impact, Incidence and Shifting of Tax Burden	3.2	3	2	Interactive lecture
Classification of Taxes-direct and indirect taxes	3.3	3	2	Interactive lecture
Canons of Taxation	3.4	3	2	Interactive lecture
Principles of Taxation: Ability to Pay principle, Benefit Approach	3.5	3	2	Interactive lecture
Effects of Taxation	3.6	3	1	Interactive lecture
Major Taxes in India- Direct and indirect-components-growth Practicum	3.7	3	10	Interactive lecture Practicum work
Module 4: **Government Budget and Federal Finance (20 Hrs)**				
Budget: Meaning and Types-Revenue and Capital Budget	4.1	4	2	Interactive lecture
Revenue Deficit, Fiscal Deficit, Budget Deficit, Primary Deficit	4.2	4	2	Interactive lecture
Budgeting in India-FRBM act	4.3	4	2	Interactive lecture
Highlights of recent Union budget Practicum	4.4	4	10	Interactive lecture Practicum work
Fiscal policy for stabilization-Deficit financing	4.5	4	2	Interactive lecture
Fiscal federalism in India – Finance commission – Finance Commission- an overview, latest norms governing resource transfer between Centre and states in India, Fiscal sustainability of states.	4.6	4	2	Interactive lecture
Module 5: Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. This content will be evaluated internally.				

Textbooks

1. Musgrave, Richard A. *Public Finance in Theory and Practice.* McGraw Hill, 1989.
2. Stiglitz, Joseph. *Economics of Public Sector.* Norton, New York, 2015.

3. Atkinson, A., & Stiglitz, J. *Lectures in Public Economics.* Princeton University Press, 2015.

Reference

1. Rosen, H., & Gayer, T. *Public Finance.* 9th ed., McGraw-Hill/Irwin, 2009.
2. Bhatia, H. L. *Public Finance.* Vikas Publishing House, 2018.
3. Jha, R. *Modern Public Economics.* Routledge, London, 1999.
4. Bailey, S. J. *Public Sector Economics.* Macmillan, 2004.
5. Qullis, John, & Jones, Philip. *Public Finance and Public Choice.* Oxford University Press, 1998.
6. Bagchi, Amaresh. *Readings in Public Finance.* Oxford University Press, 2005.

Course Designed by: Dr Pavanam Thomas

SBU24EC6DSE300: STATISTICAL INFERENCE FOR DECISION MAKING

Type of Course	DSE		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)	A comprehensive understanding of probability theory and probability distributions. Complementary software knowledge, such as that of Microsoft Excel is also advantageous		

Course Outcomes

No.	Description	Cognitive Level
CO1	Apply statistical inference techniques to compare means, interpret the results of hypothesis tests, and make informed decisions based on their analyses.	A
CO2	Apply chi-square tests for categorical data analysis, interpreting the results, and drawing meaningful conclusions in various research and practical contexts.	A
CO3	Apply statistical softwares for running the regression and interpret the results	A
CO4	Analyze data using statistical software to draw valid conclusions.	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2		2		1	2				1
CO2	2		2		1	2				1
CO3	2		2		1	2				1
CO4	2		2		1	2				1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam I	Exam II	
CO1	x	x		x		x
CO2	x	x	x	x	x	x
CO3			x		x	x
CO4					x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Statistical Inference: Comparison of Means (20 hours)				
Sampling distributions – z, t, chi square and F distributions- Properties Overview of statistical inference	1.1	1	8	Interactive Lecture

Independent sample tests—problems				
Dependent sample tests—problems	1.2	1	6	Flipped Classroom
ANOVA: Meaning and Assumptions—One-Way ANOVA-Problems Post hoc tests (Tukey's HSD)	1.3	1	6	Interactive Lecture
Module 2 Non-Parametric Tests (10 Hours)				
Non parametric tests -Need-Wilcoxon signed-rank test - Kruskal-Wallis test -Mann-Whitney U test	1.4	1	10	Interactive Lecture
Module 3: Statistical Inference: Chi-square Tests (15 Hrs)				
The Chi square test of goodness of fit-Problems	2.1	2	7	Flipped Classroom
Chi square test for independence of attributes—problems	2.2	2	8	Interactive Lecture
Module 4: Data Lab (15 Hrs)				
Statistical inferencing using softwares- dependent sample and independent sample test ANOVA and chi-square tests (Microsoft Excel) Analysing cases and presentation of reports	3.1	4	8	Data lab/ Collaborative Learning
Revisit to the regression model - simple regression model multiple regression model -dummy variable model -estimation of growth rates; -estimation of elasticity; -reporting regression results (Gretl and Microsoft Excel)-testing the violation of CLRM Analysing problems and presenting reports	3.2	3	7	Data Lab /Collaborative learning
Module 5: Teacher Specific Content ***(****This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Levin, Richard I., et al. *Statistics for Management*. Pearson, 1998.
2. Aczel, Amir D., and Jayavel Sounderpandian. *Complete Business Statistics*. Tata McGraw Hill Education Private Limited, New Delhi, 2011.
3. T N Srivastava, Shailaja Rego, *Statistics for Management*, McGraw Hill Education Private Limited, 2014

Reference

1. Ramanathan, Ramu. *Statistical Methods in Econometrics*. Academic Press Inc., 1993.
2. Nagar, A. L., and R. K. Das. *Basic Statistics*. Oxford University Press, 1983.
3. Mood, A. M., et al. *Introduction to Theory of Statistics*. McGraw Hill, 2001.

Course designed by: Johnson K Joice

SBU24EC6DSE301: ENTREPRENEURSHIP AND INNOVATION

Type of Course	DSE		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the fundamental concepts and processes of innovation, including invention, diffusion, and various types of innovations such as radical, incremental, frugal, and disruptive innovations.	U
CO2	Analyze innovation models and their implications for public policy, including the linear model, triple helix framework, and the role of public funding in fostering innovation across different sectors.	An
CO3	Evaluate the economic aspects of innovation, including Schumpeterian scenarios, market dynamics influenced by R&D, and the impact of disruptive innovations on existing market structures.	E
CO4	Examine the components and dynamics of entrepreneurial ecosystems, including the roles of intrapreneurs, entrepreneurial functions, and governmental schemes and policies supporting entrepreneurship in India.	E
CO5	Apply knowledge of innovation and entrepreneurship through case studies of successful and failed entrepreneurial ventures, analyzing factors contributing to their outcomes and applying entrepreneurial frameworks like the 5Cs of Entrepreneurship.	A

Cognitive Levels R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	1	1		1				2	1	2
CO2		2		1				1	1	1
CO3		2		1		1		1	1	1
CO4	1	2					1	2	3	1
CO5		3						2	3	2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1		x	x	x		x
CO2	x		x	x		x
CO3	x		x		x	x
CO4		x	x		x	x
CO5		x	x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Fundamentals of Innovation (15 Hours)				
The innovation process: Invention - Innovation – Diffusion	1.1	1	2	Interactive Lecture
Innovation systems	1.2	1	2	Interactive Lecture
Waves of Innovation- Rogers Diffusion theory	1.3	1	2	Interactive Lecture
Learning-by-doing- Creativity and Innovation	1.4	1	2	Interactive Lecture
Typology of Innovations - Product and Process -Radical and Incremental- Architectural and modular-Frugal innovation-User innovation- Reverse innovation-Disruptive innovation-Outcome-Driven Innovation- Eco Innovation-Social innovation	1.5	1	3	Interactive Lecture
Open innovation-Collaborative innovation network	1.6	1	2	Interactive Lecture
Christensen's Types of Innovation	1.7	1	2	Interactive Lecture
Module 2 Innovation Models and Public policy (15 Hours)				
Linear model of innovation	2.1	2	2	Interactive Lecture
Triple helix model of innovation	2.2	2	2	Interactive Lecture
Quadruple and quintuple innovation helix framework	2.3	2	2	Interactive Lecture
Technology Vintages - Product lifecycle	2.4	2	2	Interactive Lecture
External effects: Complements, substitutes, and coordination	2.5	2	2	Interactive Lecture
Costs and benefits associated with innovations-	2.6	2	2	Interactive Lecture
Public funding of basic research, education, and information infrastructure	2.7	2	3	Interactive Lecture
Module 3: Economics of Innovations (15 Hours)				
Schumpeter Mark I and II -Widening and Deepening innovations	3.1	3	2	Interactive Lecture
Innovations and market forms- large establishments and R&D	3.2	3	2	Interactive Lecture
Disruption and Switchover	3.3	3	2	Interactive Lecture
Appropriability and Public policy - Appropriability in the new economy- Knowledge spillovers	3.4	3	2	Interactive Lecture
Incentives to Invest-Subsidising	3.5	3	2	Interactive Lecture
Intellectual property rights-Optimal patents	3.6	3	1	Interactive Lecture
Schumpeterian rent	3.7	3	2	Interactive Lecture
Okishio's theorem-Alchemist fallacy	3.8	3	1	Interactive Lecture
Creative destruction and other Schumpetarian scenarios	3.9	3	1	Interactive Lecture
Module 4: Entrepreneurial Ecosystem (15 Hours)				
Forms of Entrepreneurship	4.1	4,5	2	Interactive Lecture
Entrepreneurial functions- Hekkert Seven system functions-Intrapreneur	4.2	4,5	2	Interactive Lecture
5Cs of Entrepreneurship	4.3	4,5	1	Interactive Lecture
Barriers to Entrepreneurship	4.4	4,5	2	Interactive Lecture
Entrepreneurial Ecosystem in India: Investor Connect, Credit Guarantee Scheme for start-ups, Mudra Yojana, Swarna Jayanti Rozgar Yojana Scheme, Credit Linked Capital Subsidy Scheme-Business Incubator, Industrial Estate, Special Economic Zone-Startup Mission	4.5	4,5	2	Interactive Lecture

Financing models-Start-up financing-venture capital funds-margin money scheme, Bridge capital	4.6	4,5	2	Interactive Lecture
Knowledge economy- Innovation Index	4.7	4,5	2	Interactive Lecture
Case Study: Success and Failure stories of Entrepreneurs	4.8	4,5	2	Interactive Lecture
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbook

1. Robert D. Hisrich, Michael P. Peters, Dean A. Shepherd (2017) Entrepreneurship 10th edition, McGraw-Hill
2. Howard Frederick, Allan O'Connor, Donald F. Kuratko (2016) Entrepreneurship, Ceenage
3. William Bygrave, Andrew Zacharakis (2011) Entrepreneurship 2nd Edition. John Wiley & Sons
4. Bronwyn H. Hall, Nathan Rosenberg (2010) Handbook of the Economics of Innovation, Elsevier
5. John Bessant and Joe Tidd (2015) Innovation and Entrepreneurship, John Wiley & Sons

Reference

1. Robin Lowe and Sue Marriott (2006) Enterprise: Entrepreneurship and Innovation, Elsevier
2. Harold P. Welsch (2005) Entrepreneurship: The way ahead, Routledge
3. Marc J. Dollinger (2008) Entrepreneurship: Strategies and Resources 4th Edition, Marsh Publications
4. Norman M. Scarborough, Jeffrey R. Cornwall (2016) Essentials of Entrepreneurship and Small Business Management 8th Edition, Pearson
6. Elias G.Carayannis, Elpida T.Samara, Yannis L. Bakouros (2015) Innovation and Entrepreneurship
1. Theory, Policy and Practice, Springer
7. Christina E. Shalley, Michael A. Hitt, Jing Zhou (2015) The Oxford Handbook of Creativity, Innovation, and Entrepreneurship, Oxford University Press

SBU24EC6DSE302: ENVIRONMENTAL ECONOMICS AND HUMAN RIGHTS

Type of Course	DSE		
Course Level	300-399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)	Microeconomics		

Course Outcomes

No.	Description	Cognitive Level
CO1	Appreciate the interdependence between the economy and the environment, understand different economic perspectives on environmental issues, and assess policies for sustainable development.	An
CO2	Explore the reasons for market failure in the case of environmental resources, how to represent these issues using models, and assess different government and market-based solutions to manage it.	An
CO3	Examine critically the usefulness of different environmental valuation techniques and appreciate the significance of environmental accounting for decision-making.	A
CO4	Analyse the development and impact of human rights norms on environmental protection.	E
CO5	Examine the effectiveness of international environmental agreements from a human rights perspective.	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	-	-	2	-	-	2	-	2	-
CO2	-	2	2	-	-	2	-	-	2	-
CO3	-	-	2	-	2	2	-	-	-	2
CO4	-	-	-	2	2	-	2	-	-	2
CO5	-	2	-	2	-	-	-	2	-	2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x	-	x	-	x
CO2	x	x	-	x	-	x
CO3	-	x	x	-	x	x
CO4	-	x	x	-	x	x
CO5	-	x	x	-	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Introduction to Environmental Economics (15 Hrs)				
Overview of environmental economics Microeconomic problems- the importance of incentives- Environmental issues and the behaviour of the macroeconomy-The design of environmental policy	1.1	1	2	Interactive Lecture Case Discussion
Relationship between the environment and the economy Modelling Economy-Environment Interactions The neoclassical economic perspective – The ecological perspective and its implications- The material balance perspective- the laws of transformation of matter-energy and its implications	1.2	1	4	Interactive Lectures
The Environment and Economic Development Environmental problems – a historical overview - Population growth, resource use and the environment	1.3	1	3	Interactive Lectures
The trade-offs between economic activity and environmental quality Environmental Kuznet's curve.	1.4	1	2	Interactive Lectures Student reflection
Sustainable Development- Approaches to Sustainability- Measurement of Sustainability-	1.5	1	4	Interactive Lectures Student reflection
Discussion: Economic growth, resource scarcity, and environmental degradation: where have we been and where are we going?		1		Group Discussions
Module 2: Modelling Environmental Problems and Solutions (15 Hrs)				
Environmental quality as a public good Modelling a public goods market for environmental quality	2.1	2	2	Lectures
Why markets 'Fail'-externalities, public good, incomplete property rights, asymmetric information, monopoly power, and government failure. Environmental problems as a market failure	2.2	2	3	Lecture
The Theory of Environmental Externalities- Modelling environmental damage as a negative externality	2.3	2	3	Lecture
Common property resources and public goods- Incomplete property rights- the tragedy of commons- The Coase Theorem	2.4	2	2	Lecture

Modelling solutions to environmental problems Conventional solutions to environmental problems: The command-and-control approach Using Standards in Environmental Policy Economic solutions to environmental problems: The market approach Pollution Charges- Environmental Subsidies- Deposit/Refund Systems- Pollution Permit Trading Systems	2.5	2	5	Interactive Lecture
Discussion: Market failure and inefficiency: What could cause an undesirable market allocation of resources? Debate: "Emissions taxes provide a license to pollute." b. "Emissions taxes sell out the environment to polluters."				Group Discussion Think-Pair-Share Debate
Module 3: Theory and Methods for Environmental Valuation (15 Hrs)				
Types of economic values- use-values, non-use value, option value, bequest value, existence value-	3.1	4	2	Lecture Case Discussion
Market valuation techniques - Cost-Benefit Analysis cost of illness method- replacement cost methods-	3.2	4	3	Lecture
Revealed preference non- market valuation techniques - travel cost models -hedonic pricing- defensive expenditures approach	3.3	4	4	Lecture
Stated preference non- market valuation techniques - concepts of willingness to pay (WTP) and willingness to accept compensation (WTAC) -contingent valuation method, choice modelling	3.4	4	3	Lecture
Environmental accounting- System of Environmental-Economic Accounting (SEEA)- Green GDP-adjusted net saving (ANS)- Environment Impact Assessment.	3.5	4	3	Lecture
Discussion: Measuring economic values: How do we account for all relevant benefits and costs in natural resource and environmental decisions?				Think-Pair-Share
Module 4: Human Rights and the Environment (15 Hrs)				
Human Rights-International Human Rights Law-Universal Declaration of Human Rights (UDHR) -Human Rights Council-Universal Periodic Review (UPR)	4.1	4	3	Interactive Lecture
Human rights-environment nexus- UN Environment Programme and integration of human rights- international recognition of human rights and environment linkages- human rights norms for environmental protection	4.2	4	3	Interactive Lecture
Human right to a clean, healthy, and sustainable environment- Toxins, pollution, and human rights- Right to science in the context of toxic substances- Adverse effects of environmental degradation-climate change and migration -biodiversity crisis	4.3	5	5	Interactive Lecture
Policy response to the greenhouse problem - The Montreal Protocol- The Kyoto Protocol- United Nations Framework Convention on Climate Change (UNFCCC) The Intergovernmental Panel on Climate (IPCC) Global climate change policy- the need for coordinated international action	4.4	5	2	Interactive Lecture

Human rights, Environment and Sustainable Development Goals (SDGs) Implementation of a human rights approach to environmental protection- Good practices	4.5	5	2	Interactive Lecture
Discussion: Discuss the interplay between the right to a healthy environment and other human rights.				Discussion Think-Pair-Share
Module 5: Teacher Specific Content This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned. This content will be evaluated internally.				

Textbooks

1. Ahmed Hussen, *Principles of Environmental Economics and Sustainability: An Integrated Economic and Ecological Approach*, Routledge, London, 2018.
2. Barry C. Field, Martha K. Field, *Environmental Economics: An Introduction*, 7th Edition, McGraw Hill Education, 2016.
3. Scott J. Callan, Janet M. Thomas, *Environmental Economics & Management*, Third Edition, Thomson Southwestern, 2004.
4. Jonathan M. Harris, Brian Roach, *Environmental and Natural Resource Economics: A Contemporary Approach*, Routledge, London, 2017.

Reference

1. Nick Hanley, Jason Shogren, Ben White, *Environmental Economics in Theory and Practice*, Macmillan International Higher Education, 2007.
2. John C. Bergstrom, John B. Loomis, "Economic Dimensions of Ecosystem Management," in *Integrating Social Sciences with Ecosystem Management*, Sagamore Publishing Co., Champaign, IL, 1999.
3. R. Kerry Turner, D.W. Pearce, I.J. Bateman, *Environmental Economics: An Elementary Introduction*, Harvester Wheatsheaf, New York, 1994.
4. Michael Common, Sigrid Stagl, *Ecological Economics*, Cambridge University Press, 2005.
5. Charles D. Kolstad, *Environmental Economics*, Oxford University Press, New York, 2000.
6. Stephen Smith, *Environmental Economics: A Very Short Introduction*, Oxford University Press, London, 2011.
7. S. Baker, *Sustainable Development*, Routledge, 2006.
8. D.A. Anderson, *Environmental Economics and Natural Resource Management*, Routledge, 2010.
9. WCED, *Report of the World Commission on Environment and Development*, UN, 1987.

Research Articles

1. H.E. Daly, "The Economic Growth Debate: What Some Economists Have Learned and Others Have Not," *Journal of Environmental Economics and Management*, 14 (4): 323–36, 1987.
2. William D. Nordhaus, "Reflections on the Economics of Climate Change," *Journal of Economics Perspectives*, 7 (4), Fall 1993, 11-25.
3. J.M. Hartwick, "Intergenerational Equity and the Investing of Rents from Exhaustible Resources," *American Economic Review*, 67(5), 972–974, 1977.
4. H.E. Daly, "Toward some operational principles of sustainable development," *Ecological Economics*, 2(1), 1–6, 1990.
5. Giuseppe Munda, "Environmental Economics, Ecological Economics, and the Concept of Sustainable Development," *Environmental Values*, May 1997, Vol. 6, No. 2, Pp. 213-233.

Reports

6. Gro H. Brundtland (ed.), *Our Common Future: Report of the World Commission on Environment and Development*, Oxford University Press, Oxford, 1987.
7. IPCC, *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (IPCC) (R.K. Pachauri and L.A. Meyer, eds), Geneva, Switzerland: IPCC, 2014.

Course designed by: Dr Anila Skariah

SBU24EC6DSE303: FOUNDATIONS OF CREDIT ASSESSMENT AND RISK MANAGEMENT

Type of Course	DSE		
Course Level	300 - 399		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	To understand the importance of credit assessment in financial institutions and its impact on managing credit risk	E
CO2	To assess credit risk and to analyze the significance of different metrics in measuring credit risk exposure.	E
CO3	To analyze financial statements, its importance and also to recognize the limitations inherent in financial statement analysis.	E
CO4	To understand managing spread risk, portfolio credit risk, and structured credit risk in diverse financial environments.	An
CO5	To observe banking regulations related to credit risk, Basel III and its impact on credit risk management	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	1			1		1	2			
CO2	1		1	1		1	2			
CO3	1		1	1		1	2			
CO4	1		1	1		1	2			
CO5	1		1	1		1	2			

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Home Assignment	Quiz	Viva Voce	Written Exam	Classroom Discussion	
CO1	x		x	x		x
CO2			x	x	x	x
CO3		x	x		x	x
CO4	x	x			x	x
CO5		x		x	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Introduction to Credit and Risk Management (10 Hrs)				
Overview of credit and its importance - The role of credit assessment in financial institutions - Introduction to Credit Risk Management	1.1	1	3	Lecture

Types of credit risk and their significance - Credit Spreads - Credit Risk assessment tools	1.2	1	4	Lecture Case studies
Types and mitigants of Concentration and Transaction Risk Management - Micro & Macro Business environment	1.3	1	3	Lecture Discussions
Module 2: Measurement and Loss Distribution of Credit Risk (15 Hrs)				
Approaches of Credit Risk - PD, LGD, EAD, CEL, External Ratings, Retail Credit Risk Management, Credit Derivatives	2.1	2	5	Lecture Demonstration
Probability of Default (PD), Exposure at Default (EAD), and Loss Given Default (LGD)	2.2	2	5	Lecture Problem based learning
Credit scoring models and their applications, Stress testing and scenario analysis	2.3	2	5	Lecture Case studies
Module 3: Financial Statements and Credit Mitigation Tools (15 Hrs)				
Understanding financial statements, Basic Accounting Principles and Concepts, Accounting Standards	3.1	3	4	Lecture Concept mapping
Financial Statement Analysis - Profit and Loss account / Balance Sheet, Limitations and challenges in financial statement analysis	3.2	3	6	Lecture Problem based learning
Mitigation tools - Financial Assessment Tools, Trend Analysis, Ratio Analysis, Cash Flow Statement, Fund Flow Statement	3.3	3	5	Lecture Problem based learning
Module 4: Decision Making, Risk Policies and Regulations of Credit (20 Hrs)				
Selection of Collateral, Negotiation for Covenants, Spread Risk, Portfolio Credit Risk, Structured Credit Risk	4.1	4	6	Lecture Demonstration
Risk Adjusted Return on Capital & Return on Risk Weighted Assets, Developing credit risk policies, Credit approval process and workflow, Monitoring and managing credit exposures	4.2	4	8	Lecture Problem based learning
Overview of banking regulations related to credit risk, Basel III and its impact on credit risk management, Compliance and ethical considerations	4.3	5	6	Lecture Discussions Case studies
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Saunders, Anthony, Marcia Cornett, and Otgo Erhemjamts. *Financial Institutions Management: A Risk Management Approach.* McGraw-Hill, 2021.
2. Altman, E. I., Resti, A., & Sironi, A. *The Management of Credit Risk: Theory and Practice.* Springer, 2019.
3. Chandra, Prasanna. *Investment Analysis and Portfolio Management.* Tata McGraw-Hill Education Private Limited, 2012.
4. Alexander, Carol. *Market Risk Analysis, Quantitative Methods in Finance.* John Wiley & Sons, 2008.
5. Penman, Stephen H. *Financial Statement Analysis and Security Valuation.* McGraw-Hill, 2013.

6. Brigham, Eugene F., and Joel F. Houston. *Fundamentals of Financial Management.* South-Western Cengage Learning, 2013.
7. Crouhy, M., Galai, D., & Mark, R. *Risk Management.* McGraw-Hill Education, 2000.
8. Beale, N., & Taylor, P. *Credit Risk Management: Basic Concepts.* Routledge, 2018.

Reference

1. Wilson, Thomas. "Portfolio Credit Risk I." *Risk,* Vol. 10, No. 9, 1997, pp. 111-117.
2. Financial Accounting Standards Board (FASB). *Accounting Standards Codification.* Retrieved from https://asc.fasb.org/, 1997.
3. International Financial Reporting Standards (IFRS). *IFRS Foundation.* Retrieved from https://www.ifrs.org/, 2020.
4. Carey, M., & Gordy, M. B. "An Empirical Comparison of Default Risk Forecasts from Alternative Credit Rating Philosophies." *The Journal of Financial Services Research,* vol. 19, no. 2-3, 2001, pp. 233-269.

Course designed by: Anan Joseph Benny

SBU24EC6SEC300: INTRODUCTION TO R FOR ECONOMIC DATA ANALYSIS

Type of Course	SEC		
Course Level	300-399		
Credit	3		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45		45
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the fundamental concepts of analysing data in economics	U
CO2	Analyse data using R programming language	An
CO3	Apply basic techniques for data analysis	A
CO4	Create simple models for analysing data in economics	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	1		2		2	1	1			1
CO2	1		2		2	1	1			1
CO3			2		2	1	1			1
CO4			2		2	1	1			1
CO5										

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x			x		x
CO2			x	x		x
CO3		x	x		x	x
CO4	x	x	x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Introduction to Economic Analytics (10 Hrs)				
Definition and scope - Importance of data driven decision making - Descriptive, Predictive, and Prescriptive Analytics	1.1	1	2	Lecture
Data Mining: Meaning, methodology and significance	1.2	1	2	Lecture
Contemporary trends: Meta data - Big data - Machine Learning (basic concepts only)	1.3	1	2	Lecture
Introducing the softwares commonly used: Excel - R – Python – SQL – Tableu - Power BI	1.4	1	2	Hands on Training
Working with data	1.5	1	2	Hands on Training

Module 2: Introduction to R (9 Hrs)				
R: Origin and its significance in data analysis, limitations of using R	2.1	2	1	Lecture
R-studio environment, advantages, installation, GUI and its components, Setting a working directory, running scripts in R studio	2.2	2	2	Lecture, Hands on Training
Objects in R: variables, vectors, data frames and data types, international and local formats, types of files in R, commands and functions (meaning and general overview)	2.3	2	3	Lecture, Hands on Training
R packages: installation, loading and upgrading packages	2.4	2	1	Hands on Training
Working with data	2.5	2	2	Hands on Training
Module 3: Basic operations, functions and statements in R (10 Hrs)				
Creating variables (numeric and string), R commander, arithmetic and logical operators in R	3.1	3	2	Lecture, Hands on Training
Organizing data and creating dataframes and matrices, Importing data (csv,xls files), use of R commander, saving data, selecting parts of a dataframe; subset() function, reshaping data; reshape package	3.2	3	2	Lecture, Hands on Training
Writing conditional statements: ifelse() function and the if, else, else if statements	3.3	3	2	Lecture
Implementing loops: for(), while() and repeat(), break and next statements	3.4	3	2	Lecture
Working with data	3.5	3	2	Hands on Training
Module 4: Exploring data with R (16 Hrs)				
Visualisation: ggplot2 package-geometric objects(geoms)-aesthetics(aes), scatter plot and adding a regression line, box plot, bar graphs and density plots	4.1	4	4	Lecture, Hands on Training
Descriptive statistics: central tendency measures; functions[mean(), median(),mfv(), dispersion measures;functions[range(),min(),maximum(),var(),sd(),q ua ntile(),IQR()], generic function: summary()	4.2	4	4	Lecture
Correlation: functions-cor() – cor.test() – rcor(), Kendall's tau(non parametric)	4.3	4	2	Lecture
Regression: simple and multiple in R- lm() function, interpretation of results, reliability and goodness of fit	4.4	4	2	Lecture
Working with data	4.5	4	4	Hands on Training
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Ledolter, J. *Data Mining and Business Analytics with R.* Wiley, 2013
2. Field, Andy, Jeremy Miles, & Zoë Field. *Discovering Statistics Using R.* Sage, 2022
3. Baldock, Sarah, & Sarah Stowell. *Using R for Statistics.* Apress, 2014

Reference

2. Dalgaard, Peter. *Introductory Statistics with R.* Springer New York, 2008
3. Navarro, Daniel Joseph. *Learning Statistics with R.* Lulu Press, 2013
4. Wickham, Hadley, & Garrett Grolemund. *R for Data Science: Import, Tidy, Transform, Visualize, and Model Data.* O'Reilly Media, 2016
5. Brooks, Chris. *R Guide for Introductory Econometrics for Finance.* Cambridge University Press, 2019
6. Cohen, Yosef, & Jeremiah Y. Cohen. *Statistics and Data with R: An Applied Approach Through Examples.* Wiley, 2008
7. Dayal, Vikram. *Quantitative Economics with R: A Data Science Approach.* Springer Nature Singapore, 2020
8. Singh, Abhay Kumar, & David Edmund Allen. *R in Finance and Economics: A Beginner's Guide.* World Scientific Publishing Company, 2016

Course designed by: Anan Joseph Benny

SBU24EC6VAC300: AN INTRODUCTION TO IMPACT EVALUATION OF ECONOMIC POLICIES AND PROGRAMS

Type of Course	VAC		
Course Level	300-399		
Credit	3		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
	45		45
Pre-requisite (if any)			

Course Outcomes

At the end of the course the students will be able to

No.	Description	Cognitive Level
CO1	Understand the foundational concepts of impact evaluation, including the rationale behind evaluation, distinctions between prospective and retrospective evaluations, and the significance of efficacy and effectiveness studies in assessing economic policies and programs.	A
CO2	Apply a variety of standard impact evaluation methods, such as randomized controlled trials (RCTs), regression discontinuity design, difference-in-differences method, and propensity score matching, while critically analyzing their appropriateness, strengths, and limitations for different evaluation contexts.	An
CO3	Develop the necessary skills to initiate an impact evaluation, including constructing a theory of change, developing a results chain, specifying evaluation questions, and selecting appropriate outcome and performance indicators to guide the evaluation process effectively.	An
CO4	Demonstrate proficiency in implementing impact evaluations by selecting suitable evaluation methods based on program characteristics, designing sampling strategies, collecting and analyzing data, and effectively communicating evaluation findings to stakeholders for evidence-based decision-making and policy formulation.	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2					2				
CO2	2			2		2		2		
CO3	2			2		2		2		
CO4	2					2				

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x	x	x		x
CO2	x	x	x	x		x
CO3	x		x		x	x
CO4	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Beginning an Impact Evaluation (10 Hrs)				
Why Evaluate? What Is Impact Evaluation? Prospective versus Retrospective Impact Evaluation -Efficacy Studies and Effectiveness Studies	1.1	1	2	Interactive Lecture
Complementary Approaches to Impact Evaluation	1.2	1	2	Interactive Lecture
Preparing for an Evaluation – Initial steps - Constructing a Theory of Change - Developing a Results Chain - Specifying Evaluation Questions - Selecting Outcome and Performance Indicators	1.3	1	4	Interactive Lecture
How to Evaluate? Causal Inference and Counterfactuals	1.4	1	2	Interactive Lecture
Module 2: Standard methods (25 Hrs)				
Randomized Assignment Method/ Randomized Controlled Trials (RCTs) - Steps for Randomized Assignment of Treatment - When Can Randomized Assignment Be Used? How Do You Randomly Assign Treatment? At What Level Do You Perform Randomized Assignment? Estimating Impact under Randomized Assignment. Critiques of RCTs.	2.1	2	6	Interactive Lecture
Regression Discontinuity Design -Fuzzy Regression Discontinuity Design - Checking the Validity of the Regression Discontinuity Design - Limitations and Interpretation of the Regression Discontinuity Design Method	2.2	2	6	Interactive Lecture
Difference-in-Differences Method -How is the Difference-in-Differences Method Helpful? The “Equal Trends” Assumption in Difference-in-Differences - Limitations of the Difference-in-Differences Method	2.3	2	5	Interactive Lecture
Propensity Score Matching -Combining Matching with Other Methods - Limitations of the Matching Method	2.4	2	5	Interactive Lecture
Evaluating Multifaceted Programs - Evaluating Programs That Combine Several Treatment Options - Evaluating Programs with Varying Treatment Levels - Evaluating Multiple Interventions.	2.5	2	3	Interactive Lecture
Module 3: How to implement an impact evaluation (10 Hrs)				
Choosing an impact evaluation method - Determining Which Method to Use for a Given Program - How a Program’s Rules of Operation Can Help Choose an Impact Evaluation Method - A Comparison of Impact Evaluation Methods	3.1	3,4	3	Interactive Lecture
Sampling and Data collection - Choosing a sample - Deciding on the Size of a Sample for Impact Evaluation- Finding Adequate Sources of Data - Using Existing Quantitative Data - Collecting New Survey Data.	3.2	3,4	3	Interactive Lecture

Estimations/Analysis.	3.3	3,4	4	Interactive Lecture
Module 4: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Gertler, Paul J. Sebastian Martinez, Patrick Premand, Laura B. Rawlings, and Christel M. J. Vermeersch Impact Evaluation in Practice, Second Edition, World Bank Group, 2016.
2. Khandker, Koolwal and Samad, Handbook on Impact Evaluation: Quantitative Methods and Practices, The World Bank, 2010.

Reference

1. Schlotter, Martin, Guido Schwerdt, and Ludger Woessmann. "Econometric methods for causal evaluation of education policies and practices: a non-technical guide." Education Economics 19(2): 109-137, 2011. http://www.tandfonline.com/doi/abs/10.1080/09645292.2010.511821
2. Glennerster, R., & Takavarasha, K. Running randomized evaluations: A practical guide. Princeton University Press, 2013.
3. Basu, K, 'The New Empirical Development Economics: Remarks on it's Philosophical Foundations,' Economic and Political Weekly, 40 (40): 4336-4339, 2005.
4. Barrett, C. B. and M. R. Carter 'The Power and Pitfalls of Experiments in Development Economics: Some Non-Random Reflections', Applied Economic Perspectives and Policy, 32(4): 515-48, 2010. Available from: http://dyson.cornell.edu/faculty_sites/cbb2/published_journal_articles.htm
5. Cartwright, and E. Munro, The limitations of randomized controlled trials in predicting effectiveness, Journal of Evaluation in Clinical Practice 16 (2010) 260–266, 2010.
6. White, H., Theory-based impact evaluation: principles and practice. Journal of Development Effectiveness, 1(3), 271-284, 2009. http://www.tandfonline.com/doi/abs/10.1080/19439340903114628
7. Chabrier,J, Hall, T and B. Struhl, Implementing Randomized Evaluations in Government Lessons from the J-PAL State and Local Innovation Initiative, 2017. https://www.povertyactionlab.org/sites/default/files/documents/implementing -randomized-evaluations-government.pdf
8. Ravallion, M. Evaluation in the Practice of Development. World Bank Research Observer, 24(1), 29-53, 2009. https://academic.oup.com/wbro/article-abstract/24/1/29/1671701?redirectedFrom=fulltext
9. Guido W. Imbens and Jeffrey M. Wooldridge, Recent Developments in the Econometrics of Program Evaluation. *Journal of Economic Literature* 47(1), pp. 5- 86, 2009. https://www.jstor.org/stable/27647134?seq=1#page_scan_tab_contents
10. Angrist, Joshua D. and Jörn-Steffen Pischke, *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press, 2008.
11. DiTella, Rafael and Schargrodsky, Ernesto. Do Police Reduce Crime? Estimates Using the Allocation of Police Forces after a Terrorist Attack. American Economic Review. 2004. https://www.jstor.org/stable/pdf/10.1086/426041.pdf?refreqid=excelsior%3A45a3262eedb4314996d656f4c8c93177
12. Caliendo, Marco, and Sabine Kopeinig. Some practical guidance for the implementation of propensity score matching. *Journal of Economic Surveys* 22(1): 31-72, 2008. http://onlinelibrary.wiley.com/doi/10.1111/j.1467-6419.2007.00527.x/pdf

13. Jacob, Robin, Pei Zhu, Marie-Andrée Somers, and Howard BloomA Practical Guide to Regression Discontinuity. MDRC, 2012. https://www.mdrc.org/sites/default/files/regression_discontinuity_full.pdf
14. Ludwig, Jens, and Douglas L. Miller, Does Head Start improve children's life chances? Evidence from a regression discontinuity design. *Quarterly Journal of Economics* 122(1): 159-208, 2007. .https://academic.oup.com/qje/article/122/1/159/1924719/Does-Head-Start-Improve-Children-s-Life-Chances
15. Angrist, Joshua and Alan Krueger, Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments. *Journal of Economic Perspectives* 15(4): 69-87, 2001. https://www.aeaweb.org/articles?id=10.1257/jep.15.4.69

Course designed by: Dr Shinu Varkey

SEMESTER VII

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
SBU24EC7DSC400	Major	Advanced Microeconomics	5	75	4
SBU24EC7DSC401	Major	Advanced Macroeconomics	4	60	4
SBU24EC7DSC402	Major	Research Methodology in Economics	4	60	4
SBU24EC7DSC403	Major	International Trade and Finance	4	60	4
SBU24EC7DSC404	Major	Investment Analysis and Portfolio Management	4	60	4
SBU24EC7DSC405	Major	Advanced Econometrics	4	60	4

SBU24EC7DSC400: ADVANCED MICROECONOMICS

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)	Advanced microeconomics course requires a basic foundation of intermediate microeconomics and mathematical approaches.		

Course Outcomes

No.	Description	Cognitive Level
CO1	Apply theoretical knowledge to real-world scenarios, making informed decisions and recommendations based on demand analysis.	A
CO2	Illustrate the concept of market equilibrium and the process of its achievement in different markets, and apply these models to analyse real-world market situations.	An
CO3	Demonstrate a critical understanding of alternative theories of the firm and apply theoretical frameworks to analyse and solve practical business problems	A
CO4	Analyse and evaluate the impact of different economic policies on social welfare.	An
CO5	Develop critical thinking skills, to critically evaluate economic theories, arguments, and policy recommendations.	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	2	1	1	2		2		1
CO2	2		2		1	2			2	1
CO3	2				1	2	1			1
CO4	2	2			1	2	1	2	2	1
CO5	2				1	2			1	1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2	x	x		x		x
CO3	x		x		x	x
CO4			x		x	x
CO5			X		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Consumer Behaviour (30 Hrs)				
Consumers equilibrium -overview -Duality in the consumer theory-ordinary demand function and compensated demand function – Indirect utility function Roys identity and Slutsky equation	1.1	1	3	Interactive Lecture
Attributes model of Kevin Lancaster-consumption and allocation of time: time allocation model	1.2	1,5	4	Interactive Lecture
The Pragmatic Approach to Demand Theory ─ Constant Elasticity Demand Function- Dynamic Versions of Demand Function: Nerlove, Houthakker and Taylor- Linear Expenditure system.	1.3	1,5	4	Interactive Lecture
Network Externalities ─ Bandwagon, Snob and Veblen Effects	1.4	1,5	1	Interactive Lecture
Choices under Risk and uncertainty-Contingent Consumption-Expected utility-measurement of risk - different preferences towards risk --Equilibrium in a market for risky asset-reducing risk and uncertainty.	1.5	1,5	4	Interactive Lecture
Theories under risk and uncertainty - Bernoulli Hypothesis, Neumann and Morgenstern Index, Friedman and Savage hypothesis, Markowitz hypothesis	1.6	1	4	Interactive Lecture
Practicum Microeconomic theories behind the theoretical framework in research – paper reviews	1.7	1,5	10	Practicum
Module 2: Imperfect Market Models (17 Hrs)				
Monopoly power-measurement of monopoly power-Learners Index, Herfindahl Index - sources of monopoly power-Monopoly power and market failure - rent seeking -bilateral monopoly- equilibrium	2.1	2,5	2	Interactive Lecture
Oligopoly –features - non collusive oligopoly models - conjectural variation -Cournot, Bertrand,Stackelberg) - game theory in oligopoly markets -Equilibrium in dominant strategy, Nash equilibrium; -sequential game	2.2	2	3	Interactive Lecture
Traditional collusive oligopoly models -cartel and mergers- price leadership	2.3	2,5	2	Interactive Lecture
Practicum Problem based assignment – mathematical modelling of market models	2.4	2,5	10	Practicum
Module 3: Alternate Theories of the Firm (8 Hrs)				
Emergence of the firm -Transaction cost approach: Coase and Williamson	3.1	3,5	2	Interactive Lecture
Alternate Theories of the Firm: Critique of the neo classical theory of the firm –the Hall and Hitch report	3.2	3,5	2	Interactive Lecture
Bains limit pricing theory	3.3	3,5	1	Interactive Lecture
Managerial theory of the firm - Baumol's theory of sales maximization	3.4	3,5	1	Interactive Lecture

The behavioural model of Cyert and March	3.5	3,5	2	Interactive Lecture
Module 4: General Equilibrium and Welfare Economics (20 Hrs)				
2x2x2 model of general equilibrium	4.1	4	2	Interactive Lecture
Market failure-asymmetric information-Hidden characteristics and Hidden action -Adverse selection - moral hazard, -principal agent problem-market solutions - government intervention	4.2	4	2	Interactive Lecture
New welfare economics-fundamental theorems of welfare economics-compensation criteria of Hicks, Kaldor, Scitovsky	4.2	4,5	2	Interactive Lecture
Social welfare function of Bergson and Samuelson – point of bliss	4.3	4,5	2	Interactive Lecture
Arrow's impossibility theorem	4.4	4,5	1	Flipped classroom
Theory of second best -A K Sen and welfare- Rawls' welfare concept -Easterlin Paradox	4.5	4,5	1	Flipped Classroom
Practicum- Market failure -cases and policy suggestions and welfare implications – Assignment	4.6	4,5	10	Practicum
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Varian, Hal R. *Intermediate Microeconomics with Calculus*. 1st ed., W. W. Norton & Company, 2014.
2. Perloff, Jeffrey M. *Microeconomics with Calculus*. 3rd ed., Pearson, 2016.
3. Koutsoyiannis, A. *Modern Microeconomics*. 2nd ed., MacMillan Education (Reprint), 1985.
4. Snyder, Christopher, et al. *Microeconomic Theory: Basic Principles and Extensions*. Cengage Learning, 2015.
5. Ahuja, H. L. *Advanced Economic Theory*. S Chand and Company Limited, 2013.

Reference

1. Mas-Colell, Andreu, Michael D. Whinston, and Jerry R. Green. *Microeconomic Theory*. Oxford University Press, 2005.
2. Bernheim, Douglas, and Michael D. Whinston. *Microeconomics*. McGraw Hill, 2016.
3. Rosser, Mike. *Microeconomics: The Firm and the Market Economy*. MacMillan, 2011.

Course designed by: Johnson K Joice

SBU24EC7DSC401: ADVANCED MACROECONOMICS

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)	Introductory and Intermediate Macroeconomics		

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand and evaluate the interplay between inflation and unemployment through the short-run and long-run Phillips curve to understand their implications on macroeconomic policies.	E
CO2	Explore the development and fundamental tenets of Monetarism and New Classical Macroeconomics, highlighting the importance of expectations to analyse their influence on economic policy formulation.	An
CO3	Examine the Real Business Cycle (RBC) approach, Dynamic Stochastic General Equilibrium (DSGE) model, and Supply-side economics to understand the effects of shocks on economic growth and policy.	E
CO4	Explore the transition from Walrasian general equilibrium to non-Walrasian Keynes interpretations, and the emergence of Neo-Keynesian and New Keynesian theories to grasp the microeconomic foundations of macroeconomic disequilibrium.	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	-	-	-	2	-	-	-	2
CO2	2	-	-	2	-	2	-	-	-	2
CO3	2	-	2	-	-	2	-	-	-	2
CO4	2	-	-	2	-	2	-	-	-	2
CO5	-	2	-	-	1	-	2	-	-	2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2	x	x		x		x
CO3		x	x		x	x
CO4			x		x	x
CO5	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Phillips Curve, Monetarism, New Classical Macroeconomics (20 Hrs)				
Inflation and unemployment- short-run Phillips curve – Lipsey hypothesis- policy implications	1.1	1	3	Interactive Lecture
Long run Phillips curve- the role of expectations of future inflation-expectations augmented Phillips curve -the natural rate of unemployment– Adaptive expectations hypothesis– policy implications of augmented Philips curve.	1.2	1	5	Interactive Lecture
Monetarism- An overview of major themes of monetarism- Stages in the development of monetarism	1.3	1	4	Interactive Lecture
New Classical Macroeconomics-Rational Expectations Hypothesis- Lucas surprise supply functions- Intertemporal substitution model-	1.4	1	4	Interactive Lecture
New Classical Economics and the Business Cycle- The Ineffectiveness of Government Intervention -The Lucas Critique	1.5	1	4	Interactive Lecture
Module 2: Real Business Cycle, DSGE, Supply Side Economics (10 Hrs)				
Real business Cycle (RBC) approach- salient features Real Business Cycle Modelling: Kydland and Prescott's contribution- economic growth and cycles - shocks in technology Economic policy implications.	2.1	2	5	Interactive Lecture
The Dynamically Stochastic General Equilibrium model (DSGE)	2.2	2	2	Interactive Lecture
Supply-side economics- supply Shocks and stagflation- Laffer curve – economic policy implications	2.3	2	3	Interactive Lecture
Module 3: Neo-Keynesian and New Keynesian Macroeconomics (15 Hrs)				
Walrasian general equilibrium- The reinterpretation of Keynes as non-Walrasian - Dual decision hypothesis - Clower	3.1	4	3	Interactive Lecture
Neo-Keynesian quantity-constrained models- Axel Leijonhufvud- Co-ordination Failure- Quantity Constrained Model of Malinvaud and Barro-The microeconomic foundations of disequilibrium macroeconomics - Policy implications	3.2	4	4	Interactive Lecture
New Keynesian school- core propositions and features – Nominal wage rigidities -contract model Product market-real price rigidity- Sticky price (menu cost) models, customer markets, thick market externalities, input-output model, capital market imperfections, judging quality by price	3.3	4	4	Interactive Lectures Case study

Models of implicit contract - Efficiency wage hypothesis- Insider-outsider models Economic fluctuations- fluctuations caused by nominal rigidities- fluctuations caused by uncertainty Policy implications.	3.4	4	4	Interactive Lecture Case study
Module 4: Reflections on the Twentieth-Century Developments in Macroeconomics **(15 Hrs)**				
Historical perspectives of modern macroeconomics- from Keynes to the crisis	4.1	5	4	Interactive Lecture
Discussion on What Do We Know about Macroeconomics that Fisher and Wicksell Did Not? Olivier Blanchard, The Quarterly Journal of Economics, Nov. 2000, Vol. 115, No. 4 (Nov. 2000), pp. 1375-1409, Oxford University Press URL: https://www.jstor.org/stable/2586928	4.2	5	4	Interactive Lecture Discussion
Discussion on Global Imbalances: In Midstream? Olivier Blanchard and Gian Maria Milesi-Ferretti, International Monetary Fund Research Department 2009 -Macroeconomic Policy after the Crisis	4.3	4	4	Interactive Lecture Discussion
Twentieth-century developments in macroeconomics: Evolution or Revolution?	4.4	5	2	Interactive Lecture
New Consensus Macroeconomics -Is there a consensus on key macroeconomic issues?	4.5	5	1	Interactive Lecture
Module 5: Teacher Specific Content This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned. This content will be evaluated internally.				

Textbooks

1. Snowdon and Howard Vane, *Modern Macroeconomics: Its Origins, Development, and Current State*, Edward Elgar, 2005.
2. Edmund S. Phelps, *Seven Schools of Macroeconomic Thought*, Oxford, 1990.
3. Rosalind Levacic and Alexander Rebmann, *Macroeconomics: An Introduction to Keynesian-Neoclassical Controversies*, MacMillan, 2006.
4. Lefteris Tsoulfidis, *Competing Schools of Economic Thought*, Springer, 2010.

Reference

1. David Romer, *Advanced Macroeconomics*, 4th Edition, McGraw Hill, 1996.
2. Olivier Blanchard, *Macroeconomics*, Pearson, 2017.
3. Richard T. Froyen, *Macroeconomics: Theories and Policies*, 10th Edition, Pearson, 2008.
4. George Akerlof, Olivier Blanchard, David Romer, and Joseph Stiglitz, *What Have We Learned?*, The MIT Press, Cambridge, 2014.
5. W. H. Branson, *Macroeconomics*, Harper & Row INC, USA, Indian Edition, 1995.
6. Michel De Vroey, *A History of Macroeconomics from Keynes to Lucas and Beyond*, Cambridge University Press, 2016.
7. Lance Taylor, *Reconstructing Macroeconomics: Structuralist Proposals and Critiques of the Mainstream*, Harvard University Press, Cambridge, Massachusetts, London, England, 2004.
8. Wendy Carlin and David Soskice, *Macroeconomics and the Wage Bargain: A Modern Approach to Employment, Inflation, and the Exchange Rate*, Oxford University Press, 1990.

9. J. P. Benassy, *Macroeconomics: An Introduction to the Non-Walrasian Approach*, Academic Press, New York, 1986.
10. R.J. Barro and H.I. Grossman, *A General Disequilibrium Model of Income and Employment*, American Economic Review, 61, 82-93, 1971.

Research Papers

1. M. De Vroey and P. Malgrange, "The History of Macroeconomics from Keynes's General Theory to the Present", Discussion Paper 2011-28.
2. B. Greenwald and J. E. Stiglitz, "Keynesian, New Keynesian, and New Classical Economics", Oxford Economic Papers, New Series, Vol. 39, No. 1 (Mar., 1987), pp. 119-133.
3. Stanley Fischer, "Recent Developments in Macroeconomics", The Economic Journal, Jun. 1988, Vol. 98, No. 391 (Jun., 1988), pp. 294-339.
4. Olivier Blanchard, "What Do We Know about Macroeconomics that Fisher and Wicksell Did Not?", The Quarterly Journal of Economics, Nov., 2000, Vol. 115, No. 4 (Nov., 2000), pp. 1375-1409.
5. Olivier Blanchard and Gian Maria Milesi-Ferretti, "Global Imbalances: In Midstream?", International Monetary Fund Research Department 2009 - Macroeconomic Policy after the Crisis.
6. Alexandre F.S. Andrada, "Understanding Robert Lucas (1967-1981): His Influence and Influences", Economia, 2016.

Course designed by: Dr Anila Skariah

SBU24EC7DSC402: RESEARCH METHODOLOGY IN ECONOMICS

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
	60		60
Prerequisite (if any)	Nil		

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand and apply various scientific research methodologies, effectively distinguishing between different research designs and approaches within economics.	A
CO2	Skilfully navigate the research process, from identifying problems to formulating clear research questions, conducting in-depth literature reviews, and developing robust research plans.	A
CO3	Communicate research findings effectively, both in writing and orally, while adhering to high academic integrity and presentation quality standards.	E
CO4	Conduct research ethically and responsibly, applying principles of academic integrity, data privacy, and ethical research practices throughout their work.	A
CO5	Create a comprehensive research report that combines theoretical insights with empirical data, showcasing in-depth analysis and a clear understanding of the topic.	C

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	-	2	-	2	2	2	-	-	2
CO2	-	2	-	2	2	-	2	-	-	2
CO3	-	-	-	2	2	-	-	2	-	2
CO4	-	-	-	2	2	-	-	-	1	2
CO5	2	2	2	2	2	2	2	2	2	2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	In class Discussion	Research Proposal Presentation	Periodic Progress Presentation	Oral Défense of Research Findings	Research Report/ Research paper	
CO1	X	X	X	X	X	X
CO2	X	X	X	X	X	X
CO3	X	X	X	X	X	X
CO4	X	X	X	X	X	X
CO5				X	X	X

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Doing Research Scientifically (15 Hrs)				
Exploring Research Research as A Creative and Strategic Thinking Process Need and Purpose of Scientific Inquiry Significance of research in advancing scientific knowledge. Importance of nurturing research The 'Construct' of Research Indicators of Good Research	1.1	1	4	Interactive Lecture
Navigating the Research Process Types of research design- descriptive design- experimental design- exploratory design- field research design- systematic review- mixed-method design- action research design- causal design-historical design- cross-sectional design longitudinal design- - observational design- sequential design	1.2	1	3	Interactive Lecture
Choosing a research problem Reading research effectively- narrowing a topic idea from exciting to researchable. The literature review – Reviewing the literature vs 'the literature review' The importance of a good literature review- types- structure Ways to organize your literature review- writing your literature review	1.3	1	3	Interactive Lecture
Identify research gap- six questions strategy- The research problem and questions The purpose of a problem statement- What makes a good research statement? Theoretical Framework- importance of theory and a theoretical framework Strategies for developing the theoretical framework Setting objectives- developing hypothesis	1.4	1	5	Interactive Lecture
Module 2: Methodology, Data Collection and Analysis (15 Hrs)				
The Methodology, Methods, and Tools Key Prerequisites for Methodological Design Addressing the question, making it right for the researcher, making it doable-Who, where, when, how, what Characteristics of Qualitative and Quantitative Research-Basic Research Design - Strengths and limitations	2.1	2	3	Interactive Lecture

Exploring Populations -The need to sample- the sampling process- naming your population -determining sample size -Employing an appropriate sampling strategy Random Samples Simple random sampling -systematic sampling -stratified random sampling -cluster sampling Non-random Samples Handpicked sampling - snowball sampling-volunteer sampling- convenience sampling Surveying- Interviewing- Observation- Document Analysis	2.2	2	5	Interactive Lecture
Data Management and Analysis Keeping a sense of the overall project -Managing the data Variables-Descriptive statistics- Inferential statistics Working with words - using non-textual elements	2.3	2	2	Interactive Lecture
Economic Data & Statistics Federal Reserve Economic Research & Data- United Nations Statistics Division (UNSD) of the Department of Economic and Social Affairs (DESA)- UN Comtrade- World Factbook- ProQuest Statistical Abstract of the World- ProQuest Statistical Insight-world Bank Census-NSS, MOSPI-NFHS- RBI-finmin-	2.4	2	3	Interactive Lecture, hands-on sessions
Importance of a good results and discussion section- General rules in composing a discussion of the results section- Report writing	2.5	2	2	Interactive Lecture
Module 3: Scientific Communication (15 Hrs)				
Importance of Good Academic Writing Scientific writing- The “Hourglass” notion of research Typical structure of a scientific report- Abstract- Introduction- - Literature Review -Methodology / Materials and Methods -Results -Discussion / Analysis- Conclusion	3.1	4	4	Interactive Lecture & Case Studies
Writing a research proposal Research Proposal Vs. Research Paper Types of research papers- Original articles, review papers, communications, letters. Research report writing- synopsis- Thesis - dissertations	3.2	4	3	Interactive Lecture
Citing sources -in-text citations- bibliography Different citation formats relevant to social sciences Citation managing software- practical use of open source citation managing software (Zotero/ any relevant package)	3.3	4	3	Interactive Lecture, hands-on sessions
Selecting journals for publication- Journal finder- Open Access Publications- Preprint servers- Peer review process Predatory publishing- characteristics of fake journals Quality matrices of a journal- Journal Impact Factor (JIF), Cite score, Quartile ranking, Google Scholar, Scopus, Web of Science, UGC-CARE list Quality matrix of a researcher- Author H-Index	3.4	4	3	Interactive Lecture, case study, hands-on sessions

Presenting your research work- Thesis Defence-Presentation in a conference-Defending your research Proposal-Presenting the progress of the work How to give a dynamic scientific presentation	3.5	4	2	Interactive Lecture & Group Discussion
Module 4: Ethical Aspects of Research (15 Hrs)				
Academic Integrity- Values Underlying Research Integrity- Framework for Good Academic Research Practices	4.1	5	2	Interactive Lecture
Responsible and ethical conduct of research- Research Design - Conducting Research- Data Acquisition and Management- Dissemination.	4.2	5	3	Interactive Lecture
Violations of Academic Integrity- Recognize plagiarism, falsification, fabrication, and misrepresentation. Avoiding Plagiarism- Cite Your Source- Reasons for Citing Your Sources Quoting, Paraphrasing. Summarizing, taking careful notes (Examples) Consequences of ethical violations- promotion of responsible authorship.	4.3	5	4	Interactive Lecture and case study
Using Generative AI in Research- Challenges and Opportunities of AI-assisted Writing- Known Limitations of Generative AI- Ethical Concerns with Generative AI	4.4	5	3	Interactive Lecture
Intellectual Property Challenges in the Digital Age- The Impact of Open-Source Software on Intellectual Property- Addressing Intellectual Property Challenges: Legal and Technological Solutions	4.5	5	3	Presentations and Discussions
Module 5: Teacher Specific Content This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned. This content will be evaluated internally.				

Textbooks

1. Pradip Kumar Sahu, *Research Methodology: A Guide for Researchers in Agricultural Science, Social Science, and Other Related Fields*, Springer India, 2013.
2. Zina O'Leary, *The Essential Guide to Doing Research*, Sage Publications, 2004.
3. UGC, *Guidance Document Good Academic Research Practices*, 2020.

Reference

1. Marc F. Bellemare, *Doing Economics: What You Should Have Learned in Grad School—But Didn't*, The MIT Press, 2022.
2. Paul J. Silvia, *How to Write a Lot: A Practical Guide to Productive Academic Writing*, American Psychological Association, Washington, DC, 2002.
3. John W. Creswell, *Research Design*, 4th Edition, Sage Publications, 2014.
4. William J. Goode, Paul K. Hatt, *Methods in Social Research*, McGraw-Hill International Book Co, 1983.
5. C.R. Kothari, *Research Methodology*, 2nd Edition, New International Publishers, 2004.
6. Pauline V. Young, *Scientific Social Surveys and Research*, 4th Edition, Prentice Hall of India, 1977.
7. Alan Bryman, *Social Research Methods*, 4th Edition, Oxford University Press, 2008.
8. M.Q. Patton, *Qualitative Research and Evaluation Methods*, 3rd Edition, Sage Publications.

9. Morten Skovdal, Flora Cornish, *Qualitative Research for Development: A Guide for Practitioners*, Practical Action Publishing, Rugby, UK, Chapter 1 & 2, 2015.
10. A. Deaton, *The Analysis of Household Surveys: A Microeconometric Approach to Development Policy*, The World Bank, 1997.
11. Judith Bell, *Doing Your Research Project*, Open University Press, 2005.

Research Papers

1. Marc F. Bellemare, "How to Write Applied Papers in Economics," MIT Press, 2020. Available online
2. Elena D. Kallestinova, "How to Write Your First Research Paper," YALE Journal of Biology and Medicine 84 (2011), pp. 181-190.

Websites

- Massachusetts Institute of Technology, *Academic Integrity Handbook*, 2020. Online Resource
- Intellectual Property Challenges in the Digital Age
- Academic Integrity at IISC
- Blackwell Publishing - Research Project Web Links

Course designed by: Dr Anila Skariah

SBU24EC7DSC403: INTERNATIONAL TRADE AND FINANCE

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)	An introductory course on International Economics		

Course Outcomes

No.	Description	Cognitive Level
CO1	Develop a comprehensive understanding of modern trade theories and their applications in explaining patterns of international trade, including the effects of growth on trade, technical progress, product life cycle, and various models such as Neo-Heckscher-Ohlin, Krugman, and Chamberlinian models.	A
CO2	Analyze the impacts of trade policies on economies, including the effects of tariffs, non-tariff barriers (NTBs), and economic integration stages, and evaluate the theoretical foundations behind concepts such as the Stolper-Samuelson theorem, optimum tariff, effective rate of protection, and theories of customs union and economic union.	An
CO3	Examine resource movements, international labour movements, and their impacts on economies, along with the theories of currency crisis and international financial institutions, including the International Labour Organization (ILO), multinational corporations (MNCs), and the theory of optimum currency area.	A
CO4	Develop proficiency in analyzing open economy macroeconomic policies, including policies for internal and external balance, utilizing frameworks such as the Mundell-Fleming Model, and exploring the roles of monetary and fiscal policies, foreign trade multipliers, and adjustment policies to formulate effective policy responses to macroeconomic challenges in the context of an open global economy.	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2					2				
CO2	2	2				2		2		
CO3	2					2				
CO4	2					2				

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x			x	x
CO2	x	x			x	x
CO3			x	x	x	x
CO4			x	x	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Modern Trade Theory (20 Hrs)				
The effect of growth on trade-Immiserising growth	1.1	1	1	Lecture
Rybczynski theorem	1.2	1	2	Lecture
Technical progress and trade – neutral, capital saving, labour saving	1.3	1	1	Lecture
Kravis and Linder theory of trade	1.4	1	2	Lecture
Technology gap theory	1.5	1	1	Lecture Case Discussion
Product life cycle theory	1.6	1	2	Lecture Case Discussion
The Neo-Heckscher -Ohlin models	1.7	1	2	Lecture
Neo- Chamberlinian models	1.8	1	2	Lecture
Neo-Hotelling models-Krugman Model, oligopolistic models- Brander- Krugman model	1.9	1	2	Lecture
Reciprocal Dumping model- gravity model	1.10	1	2	Lecture
Measurement of Intra Industry Trade: Balassa index-Grubel-Lloyd index, Acquino index	1.11	1	3	Lecture,Problem based learning
Module 2 Trade Policy (16 Hours)				
Commercial Policy	2.1	2	2	Lecture Debate
Effects of tariff	2.2	2	3	Lecture Demonstration
Stolper-Samuelson theorem	2.3	2	2	Lecture
Metzler paradox	2.4	2	1	Lecture
Optimum tariff-retaliation	2.5	2	1	Lecture Demonstration
Effective rate of protection	2.6	2	1	Lecture
NTBs: Quotas-Standards-SPS-Administrative Barriers-TBTs-Other measures Export subsidy Dumping and anti dumping measures	2.7	2	2	Lecture Case studies
Economic integration– stages	2.8	2	1	Lecture
Theory of customs union – static and dynamic effects	2.9	2	2	Lecture Demonstration
Economic Union - EU	2.10	2	1	Lecture
Module 3: Resource Movements, Currency Crisis and International Financial Institutions (14 Hrs)				
International labour movements and remittances- ILO	3.1	3	2	Lecture Discussion
MNCs-outsourcing	3.2	3	1	Lecture Debate
International capital movements	3.3	3	3	Lecture Inquiry based learning

Theory of optimum currency area	3.4	3	2	Lecture
Currency Crisis- East Asian crisis	3.5	3	2	Lecture Case Discussion
Greece crisis	3.6	3	2	Lecture Case Discussion
New international economic order	3.7	3	2	Lecture
Module 4: Open Economy Macroeconomic Policy (10 Hrs)				
Open economy adjustment policies	4.1	4	2	Lecture
Internal and external balance-Swan diagram- assignment problem	4.2	4	2	Lecture Inquiry based learning
Mundell-Fleming Model	4.3	4	2	Lecture
Monetary and fiscal policies	4.4	4	2	Lecture Case studies
Foreign trade multiplier	4.5	4	2	Lecture Problem based learning
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Salvatore, D. *International Economics* (8th ed.). Wiley India, New Delhi, 2008.
2. Appleyard, D. R., & Field, A. J. *International Economics* (8th ed.). McGraw Hill, New Delhi, 2014.
3. Krugman, P. R., & Obstfeld, M. *International Economics: Theory and Policy* (8th ed.). Pearson, Dorling Kindersley (India) Pvt. Ltd, New Delhi, 2009.
4. Soderston, B., & Reed, G. *International Economics* (3rd ed.). MacMillan Press Ltd. London, 1994.

Reference

1. Feenstra, R. C. *Advanced International Trade: Theory and Evidence*. Princeton University Press, Princeton. 2004
2. Carbaugh, R. J. *International Economics* (11th ed.). Thomson South Western, New Delhi. 2008

Course designed by: Dr Shinu Varkey & Dr Jeril Tom

SBU24EC7DSC404: INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand the risk- return trade-off in investment decisions.	U
CO2	Understand the process of maintaining a diversified portfolio	U
CO3	Interpret and report discounted cash flows	An
CO4	Assess portfolio and asset prospects using fundamental analysis	An
CO5	Assess portfolio and asset prospects using technical analysis	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1		2	1	2			1		2	1
CO2	1	2					1		1	
CO3	1		2	2					2	1
CO4			2	2		1			2	1
CO5			2	2		1			2	1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1		x	x	x		x
CO2		x	x	x		x
CO3			x		x	x
CO4	x		x		x	x
CO5	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Risks, Return and Market Efficiency (15 Hrs)				
Efficient Market Hypothesis – Weak, semi-strong and strong	1.1	1, 2	2	Interactive Lecture
Forms of market efficiency-Tests- Random walk theory,	1.2	1, 2	3	Interactive Lecture
Risk and Return	1.3	1	2	Interactive Lecture
Meaning and definition of risk-historical-expected	1.4	1	2	Interactive Lecture
Types Systematic and Unsystematic risk	1.5	1	2	Interactive Lecture

Market Risk, Inflation risk - Business risk-Liquidity risk-Exchange risk- Interest Rate Risk-Political Risk-Climatic risk	1.6	1	2	Case Studies
Measurement of return (Return relative and CWI) and Risk (Standard deviation and Beta)	1.7	1	2	Interactive Lecture
Module 2: Portfolio Construction and Asset Pricing (15 Hrs)				
Portfolio Construction: Traditional Approach-	2.1	1, 2	2	Interactive Lecture
Markowitz‘s Modern Portfolio Model	2.2	1	2	Interactive Lecture
Portfolio return and risk	2.3	1, 2	2	Problem-Based Learning
Diversification	2.4	1, 2	2	Problem-Based Learning
Asset Pricing Models: Sharpe's Single-Index Model	2.5	1, 2	1	Interactive Lecture
Capital Asset Pricing Model-	2.6	1, 2	2	Interactive Lecture
Capital Market Line-Security Market Line	2.7	1, 2	2	Interactive Lecture
Arbitrage Pricing Theory	2.8	1, 2	2	Interactive Lecture
Module 3: Fundamental Analysis and Time Value of Money (15 Hrs)				
Fundamental Analysis-Economy –Industry-Company Approach	3.1	4	3	Case Studies
Financial ratios-beta, price to book	3.2	4	2	Problem-Based Learning
Portfolio Performance measures: Sharpe Index - Treynor Index Jensen's alpha	3.3	4	2	Problem-Based Learning
DCF method	3.4	3	2	Problem-Based Learning
Present Value and Future value (Single Period-Annuity - Intra year compounding and discounting) –Doubling period	3.5	3	3	Problem-Based Learning
Dividend Discount Model-Single period-Multi Period-Gordons Constant Growth Model (Concepts only)	3.6	3	3	Problem-Based Learning
Module 4: Technical Analysis (15 Hrs)				
Technical Analysis-Meaning and Assumptions	4.1	5	1	Interactive Lecture
Tools: Trend Lines - Candlestick charts- bar Charting-Points and Figure charting	4.2	5	2	Demonstrations
Major Chart Patterns	4.3	5	2	Demonstrations
Dow Theory	4.4	5	1	Demonstrations
Elliot Wave Principle	4.5	5	2	Demonstrations
Volume indicators (OBV-Trin Statistics)	4.6	5	2	Demonstrations
Market Sentiment indicators (Short Interest Ratio- Breadth of the market)-Relative Strength Index	4.7	5	2	Demonstrations
Moving Averages of stock prices - Price Oscillator and crossovers	4.8	5	2	Demonstrations
Basics of behavioural Finance	4.9	5	1	Interactive Lecture
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Fischer, D. E., Jordan, R. J., & Pradhan, A. K. *Security Analysis & Portfolio Management* (7th ed.). Pearson, 2018
2. Jones, C. P. *Investments: Principles and Concepts* (12th ed.). Wiley, 2016
3. Chandra, P. *Investment Analysis and Portfolio Management* (6th ed.). McGraw Hill, 2023

Reference

1. Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. *Modern Portfolio Theory and Investment Analysis* (7th ed.). John Wiley & Sons, 2006
2. Graham, B., Dodd, D., & Klarman, S. A. *Security Analysis: Principles and Techniques* (7th ed.). McGraw Hill, 2023
3. Sharpe, W. F., Alexander, G. J., & Bailey, J. V. *Investments* (6th ed.). Prentice Hall India, 2002
4. Kevin, S. *Security Analysis and Portfolio Management* (3rd ed.). PHI Learning, 2022
5. Chandra, P. *Financial Management: Theory and Practice*. McGraw Hill, 2023

Course Designed by: Dr Jeril Tom

SBU24EC7DSC405: ADVANCED ECONOMETRICS

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
	60		60
Pre-requisite (if any)	Basic Ecinometrics		

Course Outcomes

No.	Description	Cognitive Level
CO1	Understand forms of specification errors and evaluate model Selection criteria	U
CO2	Understand the essential theoretical base of simultaneous equation models	U
CO3	Apply Dummy variable regression models in economic setting	A
CO4	Understand qualitative response econometric models	U
CO5	Apply fixed effects and random effects panel data econometric models	A

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1			2		2					2
CO2			2		2					2
CO3			2		2				1	2
CO4			2		2					2
CO5			2		2				1	2

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva	Exam 1	Exam 2	
CO1		x	x	x		x
CO2		x	x	x		x
CO3	x		x		x	x
CO4		x	x		x	x
CO5	x		x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Model Specification and Diagnostic Testing (6 Hrs)				
General criteria for Model Selection	1.1	1	2	Hands-on
Problems of Specification Error	1.2	1	2	Interactive Lecture
Errors in measurement	1.3	1	2	Interactive Lecture
Module 2: Simultaneous Equation Models (24 Hrs)				
The Nature of Simultaneous Equation Models-	2.1	2	2	Interactive Lecture
Problems of Simultaneous Equation Model- Bias of OLS Estimators (Inconsistency and Simultaneity bias)	2.2	2	3	Interactive Lecture

The Identification Problem	2.3	2	3	Problem-Based Learning
Rules of Identification- Order and Rank Conditions	2.4	2	2	Problem-Based Learning
Hausman Specification Test	2.5	2	2	Interactive Lecture
Methods of Estimating Simultaneous Equation System	2.6	2	2	Interactive Lecture
Structural Reduced Form and Recursive Models	2.7	2	3	Interactive Lecture
Single Equation Methods: Indirect Least Squares (ILS)	2.8	2	3	Interactive Lecture
Instrumental Variable (IV), 2SLS	2.9	2	2	Interactive Lecture
System Method: 3SLS (concept only)	2.10	2	2	Interactive Lecture
Module 3: Regression with Qualitative Variables (17 Hrs)				
Dummy variable regression–techniques	3.1	3	2	Hands-on
Uses	3.2	3	3	Hands-on
Dummy variable trap	3.3	3	2	Interactive Lecture
Models with qualitative dependent variables	3.4	4	2	Interactive Lecture
LPM	3.5	4	2	Interactive Lecture
Logit	3.6	4	2	Hands-on
Probit	3.7	4	2	Hands-on
Tobit	3.8	4	2	Interactive Lecture
Module 4: Panel Data Regression Models (10 Hrs)				
Panel Data: advantages - Estimation of Panel Data Regression Models-Pooled regression	4.1	5	2	Problem-Based Learning
Fixed Effect Approach	4.2	5	3	Interactive Lecture
Random Effect Approach	4.3	5	3	Interactive Lecture
Hausman Test	4.4	5	2	Interactive Lecture
Module 5: Data Lab (3 Hrs)				
Computer Applications and working out the exercises with real data.	5.1	1, 3, 4	3	Hands-on
Module 6: Techer Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Gujarati, D. N., Porter, D. C., & Pal, M. *Basic Econometrics* (6th ed.). McGraw Hill: Noida, 2020.
2. Studenmund, A. H. *Using Econometrics: A Practical Guide* (7th ed.). Pearson, 2017.

Reference

1. Gujarati, D. N. *Econometrics by Example* (2nd ed.). Palgrave Macmillan, 2016.
2. Gupta, S. C. *Fundamentals of Statistics* (7th ed.). Himalaya Publishing House: New Delhi, 2018.
3. Wooldridge, J. M. *Introductory Econometrics: A Modern Approach* (5th ed.). Cengage Learning India, 2012.
4. Watson, M. W., & Stock, J. H. *Introduction to Econometrics* (3rd ed.). Pearson, 2017.

Course designed by: Dr. Jeril Tom

SEMESTER VIII

Course Code	Type of Course	Course Title	Hours /Week	Total Hours	Credit
SBU24EC8DSC400	Major	Economics of Growth and Development - II	5	75	4
SBU24EC8DSC401	Major	Mathematical Economics - II	5	75	4
SBU24EC8DSC402	Major	Indian Economy: Issues and Policy - II	5	75	4
SBU24EC8PRJ400		Project			12

SBU24EC8DSC400: ECONOMICS OF GROWTH AND DEVELOPMENT - II

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)	The course on Economics of Growth and Development - I		

Course Outcomes

No.	Description	Cognitive Level
CO1	Analyze various models of economic growth, including traditional neoclassical models as well as its critiques and extensions	An
CO2	Evaluate the relationship between population growth and development, exploring theories such as Malthusian analyses, the Theory of Demographic Transition, and the demographic dividend, while addressing issues like gender gap and migration using models like the Harris-Todaro model.	E
CO3	Understand the role of trade in development, examining trade liberalization, export-led growth models, and theories such as the Prebisch-Singer thesis and Thirlwall's Law, and analyzing the impact of trade liberalization on welfare outcomes and foreign aid.	An
CO4	Analyze the political economy of development and underdevelopment, including theories of international inequality, dependence, and unequal exchange, while exploring case studies such as the East Asian Miracle, Latin American Economic Development, China's economic reforms, and Africa's development experience.	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2					2				
CO2	2	2				2		2		
CO3	2					2				
CO4	2			2		2			2	

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x			x	x
CO2	x	x			x	x
CO3			x	x	x	x
CO4			x	x	x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Models of Economic Growth (18 Hrs)				
Traditional neoclassical growth models-Harrod-Domar model	1.1	1	2	Interactive Lecture
Solow model-total factor productivity	1.2	1	2	Interactive Lecture
Neoclassical critics- Joan Robinson's model	1.3	1	1	Interactive Lecture
Kaldor-Mirrlees Model	1.4	1	1	Interactive Lecture
The new growth theories- New endogenous growth theory and macroeconomic determinants of growth	1.5	1	2	Interactive Lecture
Human capital and growth	1.6	1	1	Interactive Lecture
Role of resources, technology and institutions	1.7	1	1	Interactive Lecture
The New Institutional Economics and development theory	1.8	1	1	Interactive Lecture Case Studies
Practicum	1.9	1	7	Practicum work
Module 2: Population and Development (19 Hrs)				
Population growth- pessimistic and optimistic perspectives	2.1	2	2	Debate
Malthusian analyses	2.2	2	1	Interactive Lecture
Simon's challenge	2.3	2	1	Interactive Lecture
Theory of Demographic Transition	2.4	2	1	Interactive Lecture
Demographic dividend	2.5	2	1	Inquiry-Based Learning
Optimum population	2.6	2	1	Inquiry-Based Learning
Gender gap in development	2.7	2	1	Group Discussions
The problem of missing women	2.8	2	1	Inquiry-Based Learning
Migration - Harris-Todaro model- Todaro paradox	2.9	2	2	Case Studies
Practicum	2.10	2	8	Practicum work
Module 3: Trade and Development (19 Hrs)				
Trade liberalization- exports and growth	3.1	3	1	Discussion
Alternative approaches to trade in developing Countries	3.2	3	2	Debates
Prebisch-Singer thesis	3.3	3	1	Interactive Lecture
Models of export led growth: neo classical supply side model	3.4	3	1	Interactive Lecture
Kaldor Growth laws	3.5	3	1	Interactive Lecture
BOP constrained growth model- Thirlwall's Law	3.6	3	1	Interactive Lecture
Virtuous circle model	3.7	3	1	Interactive Lecture
Trade liberalization and welfare outcomes	3.8	3	1	Flipped Classroom
Foreign aid and dual gap	3.9	3	1	Interactive Lecture
Regional Trading Arrangements	3.10	3	1	Case Studies
Practicum	3.11	3	8	Practicum work
Module 4: Political Economy of Development and Underdevelopment (19 Hrs)				
Political economy of development and underdevelopment	4.1	4	2	Discussion
International inequality	4.2	4	1	Flipped Classroom
Centre-periphery thesis	4.3	4	1	Interactive Lecture

Theories of dependence and unequal exchange	4.4	4	2	Interactive Lecture
Economic progress of developing countries over the recent past	4.5	4	2	Case Studies
East Asian Miracle	4.6	4	1	Case Studies
Latin American Economic Development	4.7	4	1	Case Studies
China's economic development and reforms	4.8	4	1	Case Studies
Africa's Development Experience	4.9	4	1	Case Studies
Practicum	4.10	4	7	Practicum work
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* This content will be evaluated internally				

Textbooks

1. Ray, D. *Development Economics.* Oxford University Press, 1999.
2. Thirlwall, A. P. *Growth and Development with special reference to Developing Economies.* Palgrave Macmillan, 2009.
3. Todaro, M. P., & Smith, S. C. *Economic Development* (8th ed.). Pearson Education, New Delhi, 2005.

Reference

1. Higgins, B. *Economic Development.* Universal Book Stall, New Delhi, 1998.
2. Meier, G. M. *Leading issues in Economic Development.* Oxford University Press, New Delhi, 2007.
3. Nafziger, E. Wayne. *Economic Development* (5th ed.). Cambridge University Press, 2012.
4. Ghatak, S. *Introduction to Development Economics.* Routledge, London, 1998.
5. UNDP. *Human Development Reports.* https://hdr.undp.org/

Course designed by: Dr Shinu Varkey & Dr Jeril Tom

SBU24EC8DSC401: MATHEMATICAL ECONOMICS - II

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)	A comprehensive understanding of differential calculus, intermediate microeconomics, macroeconomics, and development economics is normally required for this course.		

Course Outcomes

At the end of the course the students will be able to

No.	Description	Cognitive Level
CO1	Appraise economic concepts and transform them into mathematical expressions using appropriate mathematical techniques to analyse and solve economic questions.	An
CO2	Explain constrained and unconstrained optimisation techniques and apply them in real world situations	An
CO3	Describe the concepts in integral calculus and apply them to solve economic and business problems	An
CO4	Discuss the concepts in differential equations and to employ them in appropriate contexts.	An
CO5	Describe the concepts in difference equations and apply them to solve economic and business problems	An

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	2			2	2	2		
CO2	2	2	2			2	2	2		
CO3	2	2	2			2	2	2		
CO4	2	2	2			2	2	2		
CO5	2	2	2			2	2	2		

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1	x	x		x		x
CO2	x	x		x		x
CO3			x		x	x
CO4			x		x	x
CO5			x		x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Unconstrained and Constrained Optimisation Techniques (20 Hrs)				
Optimization of multivariate functions conditions -first and second order conditions	1.1	1,2	2	Interactive Lecture

Equilibrium in a multi-plant firm - -Cournot model -cartels aiming at joint profit maximisation- equilibrium derivation and problems-income and cross price elasticities of demand	1.2	1,2	3	Flipped Classroom
Constrained optimization with Lagrange multiplier- Meaning and significance of Lagrange multiplier in economics	1.3	1,2	2	Interactive Lecture
Derivation of Consumers equilibrium and producers' equilibrium – ordinal analysis – problems -Derivation of long run cost function from the production function	1.4	1,2	3	Flipped classroom
Empirical production functions properties: Cobb Douglas and CES and VES	1.5	1,2	2	Interactive Lecture
Practicum -Applications of differential calculus in Economics -consumer choice theory, including utility maximization and indifference curve analysis. -Market analysis -Analysis of production functions -Assignments	1.6	1,2	8	Practicum work
Module 2: Integral Calculus (20 Hrs)				
Rules of integration – constant function – power rule - exponential function rule	2.1	1,3	3	Interactive Lecture
Integration by substitution, integration by parts	2.2	1,3	4	Interactive Lecture
Definite integrals – fundamental theorem of calculus – Properties of definite integrals- Area under a curve and between curves	2.3	1,3	3	Interactive Lecture
Marginal functions to total function – utility, revenue, cost and investment functions- Consumer's surplus and Producer's surplus, total welfare - dead weight loss of taxation-Investment and capital formation	2.4	1,3	3	Interactive Lecture
Practicum -Application of integral calculus in economic analysis	2.5	1,3	7	Practicum work
Module 3: Differential Equations (18 Hrs)				
Economic Statics and Economic Dynamics Differential Equations -Meaning and concepts, order and degree, solution Different types of differential equations:	3.1	1,4	3	Interactive Lecture
First order linear differential equations: with constant coefficient and constant term (homogeneous and non-homogeneous) – verification of the solution, with variable coefficient and variable term (homogeneous and non-homogeneous)	3.2	1,4	2	Interactive Lecture
Exact differential equations and partial integration, integrating factors and rules for the integrating factor, separation of variables	3.3	1,4	3	Interactive Lecture
The dynamic stability of market price, predicting population Making investments Harrod Domar growth model	3.4	1,4	3	Interactive Lecture
Practicum -Applications of differential equations in economics -growth models	3.5	1,4	7	Practicum work
Module 4: Difference Equations (17 Hrs)				
Meaning and concepts, Discrete time	4.1	1,5	2	Interactive Lecture
First-Order difference equation – solution - iterative method – General method – Second order difference equation	4.2	1,5	3	Interactive Lecture

The dynamic stability equilibrium convergence to equilibrium	4.3	1,5	2	Interactive Lecture
Cobb Web Model -Samuelson multiplier accelerator interaction models	4.4	1,5	2	Flipped classroom
Practicum- Applications of difference equations in economic analysis	4.5	1,5	8	Practicum work
Module 5: Teacher Specific Content *(This can be either classroom teaching, practical session, field visit etc. as specified by the teacher concerned)* **This content will be evaluated internally**				

Textbooks

1. Chiang, Alpha C., and Kevin Wainwright. *Fundamental Methods of Mathematical Economics*. McGraw Hill, 2013.
2. Dowling, Edward. *Schaum's Outline of Introduction to Mathematical Economics*. 3rd ed., McGraw Hill Professional, 2000.
3. Simon, Carl P., and Lawrence E. Blume. *Mathematics for Economists*. W.W. Norton & Co., 2010.

Reference

1. Holden, Kerry, and Alan W. Pearson. *Introductory Mathematics for Economics and Business*. NYU Press, 1992.
2. Wisneiwski, Michal. *Introductory Mathematical Methods in Economics*. 2nd ed., McGraw Hill, 1998.
3. Hoy, Michael, et al. *Mathematics for Economics*. 2nd ed., PHI, 2009.
4. Asano, Akira. *An Introduction to Mathematics for Economics*. Cambridge University Press, 2013.
5. Rosser, Mike. *Basic Mathematics for Economists*. 2nd ed., Routledge, Taylor & Francis Group, 2003.
6. Renshaw, Geoff. *Maths for Economics*. 2nd ed., Oxford University Press, 2009.

Course designed by: Johnson K Joice

SBU24EC8DSC402: INDIAN ECONOMY: ISSUES AND POLICY – II

Type of Course	Major		
Course Level	400-499		
Credit	4		
Course Delivery Duration	**Theory (Hrs)**	**Practicum (Hrs)**	**Total (Hrs)**
	45	30	75
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Critically Examine fiscal policies, central-state relations, finance commission recommendations, recent budgets, parallel economy, financial sectors, inflation trends, and regulatory mechanisms.	An
CO2	Analyze India's external sector focusing on balance of payments, foreign trade trends, foreign capital flows, and exchange rate policies post-1990.	An
CO3	Critically evaluate various social issues including health, education, poverty, pandemic effects, inequality, gender, governance, corruption, environment, and indigenous rights.	E
CO4	Examine Kerala's economy, considering globalization impacts, industrial growth, service sector sources, migration effects, human resource policies, unemployment, inequality, environmental degradation, and fiscal crisis.	E

Cognitive Levels: R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2		1	2	2		1		1
CO2	2	2			2	2		1	1	1
CO3	2	2		1	2	2		1	1	1
CO4	2	2			2	2		1		1

Mapping of CO to Assessment Tools (Theory)

CO	Formative Assessment			Summative Assessment		ESE
	Assignment	Quiz	Viva Voce	Exam 1	Exam 2	
CO1		x	x	x		x
CO2		x	x	x		x
CO3	x				x	x
CO4	x				x	x

Course Content & Transaction Mechanism

Course Content	Unit	CO	Hours	Transaction Mechanism
Module 1: Fiscal, Financial Sector/ Issues (20 Hrs)				
Fiscal deficit, trend and significance-fiscal policies-critical appreciation	1.1	1	3	Interactive lecture

Centre- state fiscal relationships-Fifteenth finance commission, major recommendations	1.2	1	2	Interactive lecture
Parallel economy	1.3	1	1	Flipped classroom
Banking and insurance-capital markets	1.4	1	2	Flipped classroom
Critical appraisal of monetary and financial sector reforms- Microfinance	1.5	1	2	Interactive lecture
Analysis of price behaviour, inflationary trends- inflation targeting and monetary policy	1.6	1	1	Interactive lecture
Regulatory Mechanism under Globalisation- SEBI, TRAI.	1.7	1	1	Interactive lecture
Practicum			8	Practicum work
Module 2: External Sector/ Issues (20 Hrs)				
Balance of payments-Post 90 trends -structure and direction of India's foreign trade	2.1	2	4	Interactive lecture
Foreign capital flows	2.2	2	3	Flipped classroom
FDI and FII	2.3	2	2	Interactive lecture
Exchange Rate- Trends and Policies	2.4	2	2	Interactive lecture
Practicum	2.5	2	9	Practicum work
Module 3: Social Issues (20 Hrs)				
Social Progress Index-Health -education-poverty- Pandemic (Covid 19)	3.1	3	2	Interactive lecture
Inequality- regional imbalances	3.2	3	2	Flipped classroom
Child labour- gender- women empowerment- caste	3.3	3	2	Flipped classroom
Governance, corruption	3.4	3	2	Interactive lecture
Water and sanitation- environment- global warming- common property resources-Adivasis -right to forests	3.5	3	2	Interactive lecture
Practicum	3.6	3	10	Practicum work
Module 4: Kerala Economy (15 hrs)				
Growth and structure	4.1	4	2	Interactive lecture
Agriculture performance-major challenges-globalisation/ FTAs (WTO, ASEAN) and Kerala's agriculture	4.2	4	2	Interactive lecture
Industrial growth- -industrial backwardness- hypotheses -policies	4.3	4	2	Flipped classroom
Service sector, sources of growth	4.4	4	2	Flipped classroom
Construction, tourism, trade, transport, energy- information technology-	4.5	4	1	Interactive lecture
Migration, dimension, impact	4.6	4	1	Interactive lecture
Human resources development-emerging issues- Health, Education Aging- policies	4.7	4	1	Flipped classroom
Fiscal Issues- fiscal crisis	4.8	4	1	Interactive lecture
Practicum	4.9	4	3	
Module 5: Teacher Specific Content This can be either classroom teaching, practical session, filed visit etc as specified by the teacher concerned. **This content will be evaluated internally.**				

Textbooks

1. Puri, V. K., & Mishra, S. K. *Indian Economy.* 38th edition, Himalaya Publishing House: New Delhi, 2021.

2. Prakash, B. A., & Alwin, J., (Eds). *Kerala's Economic Development: Emerging Issues and Challenges.* Sage, 2018.

Reference

1. Balakrishnan, Pulapre., Mausumi Das, M Parameswaran. "Growth Transitions in India." *Economic and Political Weekly*, vol. 56, no. 11, 13 Mar. 2021.
2. Roy, Shantanu De. "Economic Reforms and Agricultural Growth in India." *Economic and Political Weekly*, vol. 52, no. 9, 04 Mar. 2017.
3. Rajan, S. Irudaya, and K. C. Zachariah. "New Evidences from the Kerala Migration Survey 2018." *Economic and Political Weekly*, vol. 55, no. 4, 25 Jan. 2020.

Course designed by: Dr Pavanam Thomas

SBU24EC8PRJ400: PROJECT

Type of Course	Major		
Course Level	400-499		
Credit	12		
Course Delivery Duration	**Theory (Hrs)**	**Practical (Hrs)**	**Total (Hrs)**
Pre-requisite (if any)			

Course Outcomes

No.	Description	Cognitive Level
CO1	Demonstrate mastery of advanced econometric techniques and statistical methods through the application of appropriate quantitative tools in analyzing economic data and testing hypotheses.	C
CO2	Synthesize knowledge from various subfields of economics and related disciplines, showcasing interdisciplinary perspectives in their project work.	C
CO3	Engage in collaborative research projects, demonstrating teamwork, leadership, and interpersonal skills necessary for effective collaboration in academic and professional settings.	C
CO4	Contribute to the advancement of knowledge in economics by producing original research that makes a substantive contribution to the field, potentially leading to publication in peer-reviewed journals or presentation at academic conferences.	C

Cognitive Levels

R – Remember; U – Understand; A – Apply; An – Analyse; E - Evaluate; C - Create

Course Mapping Table

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1			3		3					3
CO2		2			3	2	2			3
CO3		2		2	3					3
CO4					3			2	2	3

Rubrics for Assessment Tools

Each course contains specific assessment tools. However, the faculty teaching the course has the freedom to alter these tools according to the course requirements, with prior permission from the respective Board of Studies.

A rubric serves as a scoring guide, with criteria for evaluating students' work in direct relation to one or more of the programme/ course outcomes. It incorporates a rating scale indicating varying levels of performance. Rubrics find application across diverse assessment contexts, including assignments, viva voce, case studies, research papers, group projects, presentations, etc. Overall scores and any smaller categories to measure specific aspects of performance can be easily combined for further analysis at the program level.

1. Assignment				
Criteria	**Excellent (4)**	**Proficient (3)**	**Satisfactory (2)**	**Needs Improvement (1)**
Economic Analysis	Demonstrates outstanding analytical skills, applying economic theories to complex scenarios with depth and insight.	Shows solid analysis and application of theories to relevant scenarios.	Basic analysis applies theories with limitations.	Misapplies theories; lacks analytical depth.
Organization & Structure	Exceptionally well-organized; clear logical progression of ideas.	Well-structured; mostly clear progression.	Somewhat organized; some logical inconsistencies.	Poorly organized; lacks logical progression.
Argumentation & Critical Thinking	Articulates a compelling argument, demonstrating high-level critical thinking and innovation.	Presents a clear argument, showing good critical thinking.	The argument is present but lacks strength or critical depth.	Fails to articulate a coherent argument.
Use of Evidence	Integrates a wide range of relevant, credible sources expertly.	Uses appropriate sources effectively.	Limited use of sources; some relevance issues.	Poor use or citation of sources.
Innovation	Demonstrates original thinking and innovative approaches to economic analysis.	Shows some originality and innovation.	Limited innovation in approach.	Lacks innovation; follows conventional methods.
2. Quiz				
Criteria	**Excellent (4)**	**Proficient (3)**	**Satisfactory (2)**	**Needs Improvement (1)**

Content Mastery	Demonstrates comprehensive, in-depth knowledge of all topics.	Exhibits a strong grasp of most topics.	Shows a good understanding of key topics.	Lacks an adequate understanding of fundamental topics.
Accuracy	Provides completely correct answers with detailed explanations.	Answers are mostly correct, accompanied by clear explanations.	Generally provides correct answers with adequate explanations.	Answers frequently contain errors; explanations are often missing or incorrect.
Insight	Offers exceptional analysis and deep insights.	Provides good analysis with clear insights.	Conducts basic, but correct analysis.	Fails to offer meaningful analysis or insight.
Concept Application	Applies concepts flawlessly to new scenarios.	Correctly applies concepts in most cases.	Generally applies concepts correctly, with minor errors.	Frequently misapplies concepts; errors are noticeable.
Timeliness	Answers all questions within the allotted time, providing thorough responses.	Completes most questions on time, with mostly thorough responses.	Completes essential questions within the time limit.	Does not complete questions on time; responses lack necessary detail.
3. Viva Voce				
Criteria	**Excellent (4)**	**Proficient (3)**	**Satisfactory (2)**	**Needs Improvement (1)**
Knowledge & understanding	Exhibits comprehensive knowledge; understands complex economic theories and applications.	Demonstrates sound knowledge; understands significant concepts.	Shows basic knowledge; understanding is superficial.	Limited knowledge; lacks understanding of basic concepts.
Analytical & Critical Thinking	Analyzes economic issues deeply; critical thinking leads to insightful conclusions.	Analyzes issues competently; shows some critical thinking.	Basic analysis; limited critical thinking.	Poor analysis; lacks critical thinking.
Communication & Presentation	Articulate and clear; presents ideas confidently and coherently.	Communicates well; generally clear and confident.	Communication is adequate; lacks confidence or clarity.	Poor communication; unclear and lacks confidence.
Engagement & Responsiveness	Provides thoughtful, accurate	Answers questions correctly; shows	Responses lack depth; shows	Struggles to respond; demonstrates

	responses; demonstrates in-depth understanding.	good understanding.	basic understanding.	poor understanding.
4. Oral Presentation				
Criteria	**Exemplary (4)**	**Proficient (3)**	**Adequate (2)**	**Needs Improvement (1)**
Content Mastery	Mastery over economic principles with innovative insights.	Strong understanding with relevant insights.	Basic understanding; straightforward insights.	Limited understanding; lacks accuracy.
Engagement & Communication	Engages deeply with compelling delivery; uses visual aids effectively.	Clearly communicates; uses visual aids well.	Engages with some clarity issues; visual aids lack impact.	Poor engagement; ineffective use of visual aids.
Analysis & Critical Thinking	Offers deep analysis with insightful, critical conclusions.	Solid analysis leading to logical conclusions.	Shows basic analysis with some gaps.	Missing or flawed critical analysis.
Feedback Integration	Skillfully incorporates feedback to enhance presentation.	Effectively uses feedback for improvement.	Makes minimal adjustments based on feedback.	Ignores feedback; lacks adjustments.
Professionalism	Displays outstanding professionalism in conduct and presentation.	Maintains professional conduct and presentation.	Generally professional with minor lapses.	Unprofessional behavior or presentation.
5. Case Study Analysis				
Criteria	**Excellent (4)**	**Good (3)**	**Fair (2)**	**Poor (1)**
Problem Identification	Identifies the core economic problem(s) with deep insight.	Identifies main problem(s) with solid understanding.	Recognizes problem(s) but with limited insight.	Fails to identify or misunderstands problem(s)
Application of Concepts	Excellently applies relevant theories for in-depth analysis.	Correctly applies theories with relevant analysis.	Applies basic concepts; analysis lacks depth.	Misapplies or overlooks key concepts.
Analysis & Critical Thinking	Offers comprehensive insights; analyzes implications thoroughly.	Provides solid analysis with clear implications.	Basic analysis; lacks detail on implications.	Minimal or irrelevant analysis; misses implications.

Solution & Strategy	Proposes innovative, well-supported solutions.	Offers clear, justified solutions.	Suggests simple solutions; lacks strong justification.	Lacks viable solutions or justification.
Presentation & Communication	Engages effectively; communicates ideas with clarity.	Communicates clearly; effectively engages audience.	Communicates with occasional clarity; some engagement issues.	Poor communication; fails to engage.
6. Research/ Review Paper				
Criteria	**Exemplary (4)**	**Proficient (3)**	**Adequate (2)**	**Deficient (1)**
Introduction	Clearly introduces the economic question, sets the stage with a precise thesis.	Introduces economic topic and thesis with clarity.	Describes the topic, but the thesis could be clearer.	The topic and thesis statement are unclear or missing.
Structure & Logic	Excellently organized, linking all parts of the paper with clear logic.	Organized with a clear structure, making logical connections.	Generally organized but sometimes hard to follow.	Disorganized, making the paper hard to understand.
Research & Evidence	Uses high-quality, relevant sources to back up the thesis strongly.	Chooses good sources that support the thesis well.	Uses some relevant sources, but support for the thesis is weaker.	Lacks enough sources to support the thesis convincingly.
Conclusion	Offers a strong conclusion that ties back to the thesis and discusses implications.	Provides a clear summary and connects back to the thesis.	Summarizes the main points, but connection to thesis is weak.	The conclusion is vague, misses key points, or doesn't tie back to thesis.
Grammar & Writing	Writing is clear and error-free, making the paper easy to read.	Mostly error-free writing, doesn't hinder understanding.	Some errors that slightly distract but overall understandable.	Many errors that make the paper difficult to understand.
Clarity & Style	Writing is not only clear but engaging, making complex ideas accessible.	Writing is clear, with a few awkward but understandable parts.	Writing is generally clear, but some parts may confuse readers.	Writing is often unclear or confusing, making it hard to follow.
Citations	All sources are cited perfectly, following academic standards.	Sources are cited with minor mistakes, follows standards well.	Some citation errors, but attempt to follow standards is evident.	Many citation errors, poor attempt at following standards.
7. Research Proposal Presentation				

Criteria	Excellent (4)	Proficient (3)	Satisfactory (2)	Needs Improvement (1)
Innovation & Significance	The proposal is highly innovative; and addresses significant economic questions.	The proposal introduces new ideas that are relevant to economic discourse.	The proposal has some new elements; its relevance to economics is unclear.	The proposal lacks innovation and has little relevance to economics.
Methodological Rigor	The methodology is robust, detailed, and ideally suited to objectives.	The methodology is sound and appropriate, mostly well-detailed.	The methodology is adequate but lacks some detail or appropriateness.	The methodology is poorly developed or unsuited to objectives.
Feasibility & Clarity	The proposal is clear, well-structured, and highly feasible.	The proposal is mostly clear and feasible with minor issues.	The proposal has clarity and feasibility issues; needs refinement.	The proposal is unclear, poorly structured, and not feasible.
8. Periodic Progress Presentation				
Criteria	**Excellent (4)**	**Proficient (3)**	**Satisfactory (2)**	**Needs Improvement (1)**
Progress & Insights	Shows significant progress with insightful analysis and findings.	Demonstrates good progress with clear analysis and findings.	Shows some progress; analysis and findings lack depth.	Limited progress; analysis and findings are unclear or missing.
Adaptation & Problem-Solving	Excellently adapts to challenges; innovative problem-solving.	Adequately adapts; solid problem-solving strategies.	Somewhat adaptable; basic problem-solving.	Struggles to adapt; ineffective problem-solving.
Communication & Engagement	Outstanding communication; effectively engages and addresses feedback.	Good communication; addresses most feedback effectively.	Adequate communication; some issues addressing feedback.	Poor communication; fails to engage or address feedback effectively.
9. Group Project				
Criteria	**Excellent (4)**	**Proficient (3)**	**Satisfactory (2)**	**Needs Improvement (1)**
Economic Theory Application	Expertly applies economic theories to analyze the research question.	Correctly applies theories with good analysis of the question.	Applies economic theories but with limited analysis.	Poor or incorrect application of theories.

Methodological Rigor	Demonstrates exceptional methodological design and execution.	Solid methodology with clear execution.	Adequate methodology; some execution issues.	Inadequate or flawed methodological design.
Data Analysis & Interpretation	Provides insightful analysis of data with sophisticated interpretation.	Conducts solid data analysis with accurate interpretation.	Basic data analysis; interpretation lacks depth.	Poor data analysis; incorrect or superficial interpretation.
Collaboration & Team Work	Exemplary collaboration and contribution.	Effective teamwork and contribution.	Basic collaboration; uneven contributions.	Poor collaboration; reliant on few members.
Innovation & Contribution	The project demonstrates significant innovation and contributes new insights into economics.	Shows originality; makes a solid contribution to the field.	Limited innovation; minor contribution.	Lacks originality; negligible contribution.
Presentation & Communication	Delivers outstanding presentation; communicates findings clearly and persuasively.	Good presentation skills; communicates findings effectively.	Adequate presentation; some communication issues.	Poor presentation; ineffective communication.
Writing Quality & Organization	Writing is exemplary; project is well-organized and coherent.	Writing is mostly clear; project is organized with minor issues.	Writing and organization are adequate but could be improved.	Writing lacks clarity; poor organization.
10. Individual Project				
Criteria	**Excellent (4)**	**Proficient (3)**	**Satisfactory (2)**	**Needs Improvement (1)**
Research Question Clarity	Poses a clear, insightful, and complex economic research question.	The research question is clear and relevant but could be more insightful.	The research question is stated but needs more clarity and complexity.	Fails to articulate a clear research question.
Economic Theory Application	Demonstrates exceptional application of relevant economic theories to the	Applies economic theories correctly with relevance to the research question.	The application of economic theories is basic and lacks depth.	Misapplies or fails to apply relevant economic theories.

	research question.			
Methodological Excellence	Employs a robust, sophisticated methodology appropriate for the economic research question.	The methodology is sound and appropriate, with minor limitations.	The methodology is basic, with some appropriateness issues.	The methodology is flawed or inappropriate for the research question.
Data Analysis & Synthesis	Performs comprehensive data analysis; synthesizes findings with advanced insight into economic implications.	Conducts solid data analysis; synthesis shows understanding of economic implications.	Fundamental data analysis is limited in synthesizing findings or implications.	Inadequate data analysis; fails to synthesize findings.
Critical Thinking & Innovation	Exhibits outstanding critical thinking; introduces innovative ideas or solutions to economic problems.	Displays good critical thinking with some innovative elements.	Shows essential critical thinking; lacks innovation.	Lacks critical thinking; no evidence of innovation.
Conclusion & Contribution to Field	Provides a compelling conclusion that adds significant insights or advances to the field of economics.	The conclusion is clear and offers a solid contribution to the field.	The conclusion is present but lacks significant contribution or insight.	The conclusion is vague, missing, or offers no real contribution to the field.
Presentation Quality	Exceptional presentation skills; articulates findings and implications clearly and persuasively.	Good presentation; effectively communicates main findings.	Adequate presentation; some issues in clarity or persuasion.	Poor presentation skills; fails to communicate findings effectively.
Writing & Scholarly Rigor	Exemplary writing; project is well-structured, clear, and adheres to academic standards.	Writing is clear, with minor errors; project structure is mostly coherent.	Writing is adequate but lacks clarity; some structural issues.	Writing is poor and lacks coherence; fails to meet academic standards.

11. Assignment Rubrics: Mathematical Economics I and II/Quantitative Methods for Economic Analysis I and II				
Criteria	**Excellent (4)**	**Proficient (3)**	**Satisfactory (2)**	**Needs Improvement (1)**
Understanding of Mathematical /Statistical Concepts	Demonstrates thorough understanding of all mathematical/statistical concepts relevant to the assignment.	Shows a solid understanding of most mathematical /statistical concepts relevant to the assignment.	Demonstrates a basic understanding of some mathematical /statistical concepts relevant to the assignment.	Fails to demonstrate an understanding of mathematical /statistical concepts relevant to the assignment.
Application of Mathematical /statistical Tools	Applies a wide range of mathematical/statistical tools accurately and effectively to solve problems.	Applies mathematical /statistical tools accurately to solve most problems.	Applies mathematical /statistical tools with limited accuracy to solve some problems.	Does not apply mathematical /statistical tools to solve problems.
Analysis and Interpretation of Results	Analyzes and interprets mathematical/statistical results effectively, drawing insightful conclusions.	Analyzes and interprets mathematical/statistical results accurately, drawing appropriate conclusions.	Analyzes and interprets mathematical/statistical results with some accuracy, but conclusions are limited.	Does not analyze or interpret mathematical /statistical results.
Clarity and Organization of Work	Work is exceptionally clear, well-organized, and easy to follow.	Work is clear, well-organized, and mostly easy to follow.	Work is somewhat clear and organized but may be difficult to follow in some places.	Work is extremely unclear, disorganized, and impossible to follow.

SHORT TERM COURSES

The main objective of the short term courses offered by the college is to supplement the students with various skills and technical know-how outside the structured academic curriculum, to produce quality citizens who are academically proficient, self-reliant and socially committed. The courses have compulsory components and optional components that equip the students to attain various programme objectives envisaged by the Vision and Mission statements of the college.

All Short-Term Courses (STCs) are coordinated by the Department of Short Term Courses, headed by a Director and is supervised by a Vice Principal nominated by the Principal. Each component of the STC is coordinated and managed by a Faculty Convener. The Advisory Board of the Department consists of the Vice-Principals, Director of the Short Term Courses and the various Conveners.

In case of any grievances, students can approach the Grievance Redressal Cell of the STC which consists of the Vice-Principal in Charge, Director and the concerned Convener. If the student feels that the issue was not adequately addressed, he/she can approach the Grievance Redressal Cell of the college. The grading pattern for all courses will be the same as in the UG regulations 2024. The courses offered by the department are given in the following table.

	Name	Semesters	Type	Credit
1	Value Education	I to VI	Compulsory	3
2	Basic Life Support System and Disaster Management (BLS & DM)	I	Compulsory	1
3	Social Awareness Course (SAC)	I and II	Compulsory	2
4	Skill Development Courses (SDC)	II and III	Optional	2
5	Finishing School	III and IV	Compulsory	1
6	Virtual Lab Experiments	V	Optional	1

REGULATIONS FOR SHORT TERM COURSES

VALUE EDUCATION

Value Education is a compulsory extra credit course with three (3) credits for all the students admitted to the undergraduate programmes.

Duration

The duration of the course shall be three academic years (six semesters). There shall be minimum 60 hours spread over three years with 20 hours every academic year.

Evaluation

The evaluation of each course shall contain two parts.

i. Continuous evaluation (every year)
ii. Final evaluation (every year)

There shall be a maximum of 50 marks comprising of forty (40) marks for final evaluation and ten (10) marks for continuous evaluation.

Continuous Evaluation

Component	Marks
Assignment	5
Attendance	5
Total	10

1. **Assignment**
   The students shall submit at least one assignment in every year. The marks for assignment is five (5).
2. **Attendance**
   The minimum requirement of aggregate attendance during a year for appearing the final examination shall be 75%.

Marks for attendance

Maximum of five (5) marks will be given for attendance as follows.

% of Attendance	Marks
90 and above	5
85-89	4
80-84	3
76-79	2
75	1

(Decimals shall be rounded off to the next higher whole number)

Final evaluation

Final evaluation shall be conducted by the course coordinator at the end of every year.

There shall be an annual written examination of one and a half hours (1½) duration with a maximum forty marks (40), every year.

The question paper shall be strictly on the basis of model question paper set by the Expert Committee.

A question paper consists of short answer type, short essay type and long essay type questions.

The total marks of the course (three years combined) shall be one hundred and fifty (150).

Award of certificate

A separate minimum 30% marks each for continuous evaluation and final evaluation and an aggregate minimum of 35% are required for a pass in the course.

If a student does not acquire minimum marks in first and second years, he/she can continue the course.

The student shall be eligible to get certificate only after completing the course with D Grade. On successful completion of the course, the grade awarded will be indicated in the Mark cum Grade Card.
The grading pattern will be the same as in UG Regulations 2024.
The course shall be completed during the tenure of the programme.

BASIC LIFE SUPPORT SYSTEM AND DISASTER MANAGEMENT (BLS & DM)

- The main objective of this course is to provide intensive training on Basic Life Support System and Disaster Management with the help of professional trainers and adequate numbers of mannequins and kits for imparting the training to students.
- This course is compulsory for all the undergraduate students of this college and has one (1) credit.
- The course on BLS & DM shall be conducted by a nodal centre created in the College.
- Each student shall undergo five (5) hours of hands-on training in BLS & DM organised by the Centre for BLS & DM.
- After the completion of the training, the skills acquired shall be evaluated using an offline/online test and grades shall be awarded.
- Nodal Centre for BLS & DM shall conduct an online test and publish the results.
- Students who could not complete the requirements of the BLS & DM training shall appear for the same along with the next batch.
- The grading of the course is as per the grading pattern in UG Regulations 2024.

SOCIAL AWARENESS COURSE (SAC)

- The aim of SAC is to make students aware of the problems that different societies and communities face on a day-to-day basis and to be conscious of the difficulties and hardships of society.
- This is a compulsory course with two (2) credits.
- Social Awareness Course shall be conducted by a nodal centre consisting of the convenor, other faculty members nominated by the Principal.
- The centre shall identify the areas where the students can serve the society through the course.
- During the first semester itself, the centre shall organise activities to sensitize the students about the significance and relevance of Social Awareness and publish a list of different areas where they can work as volunteers.
- The centre shall allot students to various areas based on their preference.
- Students shall carry out the voluntary work allotted to them after the regular class hours/weekends/holidays falling in the first and second semesters and the summer vacation following the second semester.
- Evaluation of the SAC activity shall be based on the hours of work put in by a student. A minimum of 50 hours of social work (corresponding to 50 marks) is required for the successful completion of the course. Every additional work beyond the minimum 50 hours shall fetch five (5) marks per hour. Maximum marks shall be 100.
- Students who donate blood during the first year shall be given 10 marks on production of the certificate from the medical officer. However, marks earned through blood donation shall not be counted for a pass in the course. Mark for blood donation shall be awarded only once during the SAC.
- Two credits shall be awarded to students who complete the requirements of SAC.
- The grading will be as per the grading pattern in the UG Regulations 2024.
- Students who could not complete the requirements of the SAC shall appear for the same with the next batch.
- The Director of Short-Term Courses and Convenor of SAC has the right to exclude students who are physically challenged from SAC, if requested.

SKILL DEVELOPMENT COURSES (SDC)

- This is a compulsory component of STC with two (2) credits.
- SDC's shall be completed within the first four semesters of the programme.
- Depending on the nature of the course, there will be a theory component and a skill development component.
- The credit will be awarded only if the student gets a D grade (35% marks) and above.
- A student can do a maximum of three skill Development Courses according to his/her choice, but pass in at least one course is compulsory.
- The Convenor of SDC will coordinate the course.
- The Head of the Department concerned in consultation with the faculty members may prepare a syllabus for the SDC, which will be approved by the Board of Studies concerned.

Evaluation of SDC

The evaluation the course shall be done internally and contain two parts.

i. Continuous evaluation
ii. Final evaluation

Both continuous evaluation and final evaluation shall be carried out using indirect grading. The marks for continuous evaluation is twenty (20) and that of the final evaluation is eighty (80).

Continuous evaluation

The components of the continuous evaluation and their marks are as below.

For all courses, without practical

There are two components for continuous evaluation, which include attendance and assignment. All the components of the continuous evaluation are mandatory.

Component	Marks
Attendance	5
Assignments	15
Total	**20**

Marks for attendance

Minimum 75% attendance is compulsory for attending the final examination.

% of Attendance	Marks
90 and above	5
85 - 89	4
80 – 84	3
76 – 79	2
75	1

(Decimals shall be rounded mathematically to the nearest whole number)

For all courses with practical

The components for continuous evaluation of courses with practical are given below.

Component	Marks
Attendance	5
Lab/skill work involvement	15
Total	**20**

Assignments
At least one assignment shall be submitted for the course.

Final evaluation

The final evaluation of theory and practical courses shall be conducted by the office of the Controller of Examinations. It can be in the form of 80 marks written examination or 80 marks project/practical examination or 80 marks written and project/practical examination combined, as decided by the Board of Studies concerned.

FINISHING SCHOOL

- It is a compulsory course with one (1) credit.
- The course provides compulsory training for all under graduate students of this college.
- The training is to help students develop their soft skills and interview skills.
- The training shall impart soft skills comprising of language skills, personal presentation and grooming, table manners, resume preparation, group discussion techniques, and interview skills among the undergraduate students.
- This course shall be conducted during the third and fourth semesters for all the undergraduate students.
- There will be a total of 20 contact hours which shall be handled by a team of professional members/faculty. In addition, a one-day outbound training session by a team of professional trainers that touches on the aspects of creativity, problem solving and team building shall also be organized.
- The students shall be assessed on the basis of the components given below.

Component	Marks
Attendance	5
Aptitude Test	10
Assignments	10
Group discussion	10
Interview	15
Total	**50**

Marks for attendance

Maximum of five (5) marks will be given for attendance as follows.

% of Attendance	Marks
90 and above	5
85-89	4
80-84	3
76-79	2
75	1

(Decimals shall be rounded off to the next higher whole number)

Grades will be awarded as per grading pattern in UG Regulations 2024.

VIRTUAL LAB EXPERIMENTS

- This is an optional course with one (1) credit.
- The main aim of the Virtual Lab Experiments is to provide remote-access to simulation-based Labs in various disciplines of Sciences which enthuse students to conduct experiments by arousing their curiosity.

- The Convenor will coordinate the Virtual Lab component and he may use the services available in different virtual lab platforms after the approval of the advisory body.
- Students have to do at least 36 hours of experiments and they get a maximum of one credit for this.
- Convenor and the mentor of the student shall oversee the progress and assign grades as per the grading pattern in UG Regulations 2024 after the completion of the programme.