

**Revised and Updated Curriculum**  
**BS (Economics)**  
**(Four Years Program)**  
**2024**



**DEPARTMENT OF ECONOMICS**  
**UNIVERSITY OF KARACHI**  
**KARACHI-75270, PAKISTAN**

# Bachelor of Studies Degree (BS)

<b>FIRST SEMESTER [18 Credit Hours]</b>			
<b>Course Code</b>	<b>Subject</b>	<b>Cr. Hrs.</b>	<b>Type</b>
300.1 (E)	English I	2	Arts & Humanities (G. Edu)
300.1 (I.S)	Islamic Studies OR Ethics (Non-Muslim)	2	Compulsory (G. Edu)
300.1 (Civ/Com)	Civics and community engagement	2	Compulsory (G. Edu)
300.1 (N. Sc)	Everyday Science, astronomy, physics, chemistry, earth science, or biology.	3	Compulsory (G. Edu)
301	Interdisciplinary -I	3	Interdisciplinary (Minor 1)
301	Interdisciplinary -II	3	Interdisciplinary (Minor 2)
ECO 301	Principles of Microeconomics	3	Major 1
		<b>18</b>	

<b>SECOND SEMESTER [18 Credit Hours]</b>			
<b>Course Code</b>	<b>Subject</b>	<b>Cr. Hrs</b>	<b>Type</b>
300.2 (P.S)	Ideology & constitution of Pakistan	2	Compulsory (G. Edu)
300.2 (F. Eng)	Functional English	3	Compulsory (G. Edu)
300.2 (Entr)	Entrepreneurship	2	Compulsory (G. Edu)
300.2 (Soc. Sc)	Intro to Soc. Sc, anthropology, Urdu, economics, history, geography, or psychology.	2	Social Sciences (G. Edu)
302	Interdisciplinary -I	3	Interdisciplinary (Minor 3)
302	Interdisciplinary -II	3	Interdisciplinary (Minor 4)
ECO 302	Principles of Macroeconomics	3	Major 2
		<b>18</b>	

<b>THIRD SEMESTER [18 Credit Hours]</b>			
<b>Course Code</b>	<b>Subject</b>	<b>Cr. Hrs</b>	<b>Type</b>
400.1 (Q. Reas))	Quantitative Reasoning	3	Compulsory (G. Edu)
400.1 (E. Writ))	Expository writing	3	Compulsory (G. Edu)
401	Interdisciplinary -I	3	Interdisciplinary (Minor 5)
401	Interdisciplinary -II	3	Interdisciplinary (Minor 6)
ECO 401	Basic Mathematics for Economists	3	Major 3
ECO 403	Money and Banking	3	Major 4
		<b>18</b>	

<b>FOURTH SEMESTER [18 Credit Hours]</b>			
<b>Course Code</b>	<b>Subject</b>	<b>Cr. Hrs</b>	<b>Type</b>
400.2 (Q. Reas))	Quantitative Reasoning	3	Compulsory (G. Edu)
400.2 (ICT)	Application of Inf. & Comm. Technologies	3	Compulsory (G. Edu)
402	Interdisciplinary -I	3	Interdisciplinary (Minor 7)
402	Interdisciplinary -II	3	Interdisciplinary (Minor 8)
ECO 402	Issues in Pakistan Economy	3	Major 5
ECO 404	International Trade and Finance	3	Major 6
		<b>18</b>	

<b>FIFTH SEMESTER [18 Credit Hours]</b>			
<b>Course Code</b>	<b>Subject</b>	<b>Cr. Hrs</b>	<b>Type</b>
ECO 501	Microeconomics	3	Major 7
ECO 503	Macroeconomics	3	Major 8
ECO 505	Statistics for Economists	3	Major 9
ECO 507	Public Finance	3	Major 10
ECO 509	Development Planning	3	Major 11
500.1	Field Experience/Internship	0 + 3	Compulsory (G. Edu)
		<b>18</b>	

<b>SIXTH SEMESTER [18 Credit Hours]</b>			
<b>Course Code</b>	<b>Subject</b>	<b>Cr. Hrs</b>	<b>Type</b>
ECO 502	Microeconomics	3	Major 12
ECO 504	Macroeconomics	3	Major 13
ECO 506	Statistics for Economists	3	Major 14
ECO 508	Public Finance	3	Major 15
ECO 510	Development Planning	3	Major 16
500.2	Capstone Project	0 + 3	Compulsory (G. Edu)
		<b>18</b>	

<b>SEVENTH SEMESTER [18 Credit Hours]</b>			
<b>Course Code</b>	<b>Subject</b>	<b>Cr. Hrs</b>	<b>Type</b>
ECO 601	Monetary Economics	3	Major 17
ECO 603	International Economics	3	Major 18
ECO 605	Econometrics	3	Major 19
ECO 607	Research Methodology	3	Major 20
ECO 609	Elective -I	3	Major 21
ECO 609	Elective -II	3	Major 22
		<b>18</b>	

<b>EIGHTH SEMESTER [18 Credit Hours]</b>			
<b>Course Code</b>	<b>Subject</b>	<b>Cr. Hrs</b>	<b>Type</b>
ECO 602	Monetary Economics	3	Major 23
ECO 604	International Economics	3	Major 24
ECO 606	Econometrics	3	Major 25
ECO 608	Research Methodology	3	Major 26
ECO 610	Elective -I	3	Major 27
ECO 610	Elective -II	3	Major 28
		<b>18</b>	

**NOTE:**

- Inter-disciplinary courses will be opted from allied departments decided by the parent department.
- Departmental compulsory and optional subjects are to be decided by the parent department.
- The number of courses offered per semester to be decided by the parent department but the total no of cr. hrs. should not be less than 15 or more than 21 per semester including the Gen. Ed. Courses.
- The total cr. hrs. of the program should not be less than 144.
- Thesis can be offered in lieu of two courses, one each of seventh & eighth semester.
- Internship and Capstone project may be completed during the semester breaks.

Degree Title	B.S. _Economics_
Total Credit Hours	144 Credit Hours
Degree Qualifying CGPA	2.2 / 4.0
Pass percentage	50%
Duration	4 years
Semester	8

Gen Edu courses	30 Cr. Hrs
Major courses	84 Cr. Hrs
Inter Disciplinary Courses	24 Cr. Hrs
Field Experience	3 Cr. Hrs
Capstone Project	3 Cr. Hrs

### **DEFICIENCY COURSES**

#### **For the Students entering in V Semester (Third Year BS Economics)**

Deficiency courses will be assigned to students based on the credit hours they have completed in their two-year bachelor's degree program.

#### **Elective Courses for BS (Economics)**

BS (Economics) students can select two elective courses from the list given in the Appendix (Major and Subsidiary subjects for BS in the Faculties of Arts & Social Sciences and Islamic Studies) of the admission prospectus. Every student, therefore, is directed to consult Chairperson of the major department before selecting subsidiary subjects.

**List of Elective Courses in BS Fourth Year**

<b>Seventh Semester</b>		<b>Eighth Semester</b>	
<b>Code ECO 609.</b>	<b>Course Title</b>	<b>Code ECO 610.</b>	<b>Course Title</b>
609.1	Labor Economics	610.1	Labor Economics
609.2	Human Resource Management	610.2	Human Resource Management
609.3	Applied Econometrics	610.3	Applied Econometrics
609.4	Computer Applications in Economics	610.4	Computer Applications in Economics
609.5	Mathematical Economics	610.5	Mathematical Economics
609.6	Operations Research	610.6	Operations Research
609.7	National Income Accounting	610.7	National Income Accounting
609.8	Regional Economics	610.8	Regional Economics
609.9	Urban Economics	610.9	Urban Economics
609.10	Transport Economics	610.10	Transport Economics
609.11	Environmental Economics	610.11	Environmental Economics
609.12	Agricultural Economics	610.12	Agricultural Economics
609.13	Industrial Economics	610.13	Industrial Economics
609.14	Development Economics	610.14	Development Economics
609.15	Health Economics	610.15	Health Economics
609.16	Project Management	610.16	Project Management
609.17	Public Sector Economics	610.17	Public Sector Economics
609.18	Management Economics	610.18	Management Economics
609.19	Managerial Economics	610.19	Managerial Economics
609.20	Economics of Marketing	610.20	Economics of Marketing
609.21	Financial Markets and Institutions	610.21	Financial Markets and Institutions
609.22	Comparative Economics	610.22	Comparative Economics
609.23	Islamic Economics and Finance	610.23	Islamic Economics and Finance
609.24	History of Economic Thought	610.24	History of Economic Thought
609.25	Stabilization Policy	610.25	Stabilization Policy
609.26	Economics of Technologies	610.26	Economics of Technologies
609.27	Economics of Tourism	610.27	Economics of Tourism
609.28	Analysis of Pakistan Industries I	610.28	Analysis of Pakistan Industries
609.29	Entrepreneurship: Theory and Application	610.29	Entrepreneurship: Theory and Application
609.30	Economics of Cooperative Societies	610.30	Economics of Cooperative Societies
609.31	Real Estate Economics	610.31	Real Estate Economics
609.32	Islamic Banking and Finance	610.32	Islamic Banking and Finance
609.33	Thesis <sup>1</sup>	610.33	Thesis

<sup>1</sup> Thesis is comprised of two semesters. A minimum of 65 percent (or equivalent CGPA), on average, in the last six semesters is compulsory to opt it. Also subject to the approval of the research proposal and defense of the Thesis through the Departmental Research Committee (DRC).

## **ECO 301: Principles of Microeconomics**

### **Course Description**

Economics is the study of how societies allocate scarce resources among competing uses. This introductory course provides a foundation in microeconomic theory, emphasizing the role of individual decision-making in markets. Students will explore how economic agents—consumers, firms, and governments—interact within various market structures and how these interactions influence the allocation of resources.

### **Course Objectives**

Upon successful completion of this course, students will be able to:

- Understand key economic concepts and engage in critical thinking about economic issues.
- Apply microeconomic theory to analyze real-world economic events and make informed decisions.

### **Course Contents**

#### **A. Introduction to Economics:**

- Definition of economics
- Fundamental economic problems
- Specialization and trade
- The production possibility frontier
- Importance of marginal changes

#### **B. Individual Choice:**

- The role of demand in individual choice
- Rationality and preferences
- Deriving demand for economic goods
- Market demand and elasticity of demand

#### **C. Production and the Behavior of the Firm:**

- Production function
- Firm behavior and cost function
- Production behavior concerning output
- Profit maximization

#### **D. Market Structure:**

- Basic principles of equilibrium in economics
- Determinants of market structure
- Models of perfect competition, monopoly, and monopolistic competition

**Recommended Books**

- Salvatore, D. (2008). Microeconomics: Theory and Applications (5th ed.). Addison Wesley.
- Salvatore, D. (2006). Schaum's Outline of Microeconomics (4th ed.). McGraw-Hill.
- Witztum, A. (2005). Economics: An Analytical Introduction . Oxford University Press.
- Sloman, J., & Wride, A. (2009). Economics (7th ed.). Pearson.
- Parkin, M. (2013). Microeconomics (11th ed.). Pearson.



## **ECO 302: Principles of Macroeconomics**

### **Course Introduction**

This course is an introductory exploration into the field of macroeconomics, designed for students with no prior formal background in economics. It focuses on understanding the broad macroeconomic aggregates, their measurement, and the interrelationships between key macroeconomic variables. The course will emphasize the effects of demand management policies on economic activity in the short run within a closed economy.

### **Course Objectives**

By the end of this course, students will be able to:

- Grasp the fundamental concepts of macroeconomics.
- Understand the measurement of key macroeconomic variables.
- Analyze the relationships between macroeconomic aggregates.
- Evaluate the impact of demand management policies on economic activity using macroeconomic models.

### **Course Contents**

#### **1. Introduction**

- The Subject Matter of Macroeconomics
- Analytical Tools and Concepts
  - Macroeconomic Variables
  - Macroeconomic Model Building
  - Short-Run vs. Long-Run Analysis
  - Statics, Comparative Statics, and Dynamics

#### **2. National Income Accounting**

- The Circular Flow of Economic Activity
- The Product, Expenditure, and Income Methods of Measuring Aggregate Output
- Measuring Price Level and Inflation Rates
- The Measurement of Unemployment

#### **3. Saving, Investment, and Goods Market Equilibrium**

- Introduction
- Aggregate Consumption and Saving
- Investment Demand
- The Keynesian Cross Diagram and Concept of Multiplier
- IS Curve: Definition, Derivation, Position, and Slope

#### **4. Money Market Equilibrium**

- The Demand for Money
- The Supply of Money

- LM Curve: Definition, Derivation, Position, and Slope

## **5. The IS-LM Model**

- Equilibrium in the IS-LM Model
- Effects of Demand Management Policies in the IS-LM Model
- Aggregate Demand for Output
- Policy Effects and Policy Effectiveness in the Fixed Price IS-LM Model

## **Recommended Books**

- Dornbusch, R., Fischer, S., & Startz, R. (2017). *Macroeconomics* (13th ed.). McGraw-Hill Education.
- Case, K. E., Fair, R. C., & Oster, S. M. (2012). *Principles of Macroeconomics* (10th ed.). Pearson Higher Education.
- Mankiw, G. N. (2019). *Macroeconomics* (10th ed.). Worth Publishers.

## **ECO 401: Basic Mathematics for Economists**

### **Course Description**

This course is designed to equip students with the quantitative skills and mathematical tools necessary for the study and practice of economics. It focuses on enhancing students' problem-solving abilities, performing calculations, and developing analytical skills. The course also aims to strengthen students' capacity for oral and written communication in the context of mathematical economics.

### **Course Objectives**

By the end of this course, students will be able to:

- Understand the relevance and application of mathematics in economics.
- Develop proficiency in problem-solving and quantitative analysis.
- Perform calculations involving mathematical functions, linear equations, and matrices.
- Apply differential calculus to economic problems such as profit maximization and elasticity of demand.
- Communicate mathematical concepts effectively in both oral and written forms.

### **Course Contents**

#### **1. Introduction**

- The importance of mathematics in economics
- Basic mathematical terms and concepts

#### **2. Mathematical Functions**

- Relation and functions
- Dependent and independent variables
- Functions with one and multiple independent variables
- Interpretation and computation of linear functions

#### **3. Linear Equations**

- Interpretation and analysis of linear equations
- Systems of linear equations with one and multiple unknowns
- Solution methods: substitution and elimination of variables

#### **4. Matrix Algebra**

- Basic concepts of matrices
- Addition and subtraction of matrices
- Matrix multiplication
- The matrix form of a system of linear equations
- Solving systems of linear equations using Cramer's rule and the inverse matrix
- Input-output analysis

## **5. Nonlinear Functions**

- Quadratic equations and the quadratic formula
- Cubic functions
- Exponential functions
- Logarithmic functions

## **6. Differential Calculus: Principles and Applications**

- Limits and continuity
- The secant slope and tangent slope
- Continuity and derivative
- Rules of differentiation
- Higher-order derivatives
- Partial differentiation
- Identifying stationary points of functions with one independent variable
- Profit maximization
- Principles of marginal analysis
- Elasticity of demand
- Constraint optimization models

### **Recommended Books**

- Rosser, M. (2003). *Basic Mathematics for Economists* (2nd ed.). Routledge.
- Jacques, I. (2018). *Mathematics for Economics and Business* (9th ed.). Pearson Education Limited.
- Holden, K., & Pearson, A. W. (1992). *Introductory Mathematics for Economics and Business* (2nd ed.). Palgrave Macmillan.
- Dowling, E. (2011). *Introduction to Mathematical Economics* (3rd ed.). Schaum's Outline Series, McGraw-Hill.
- Hussain, S. M. A. (2013). *Simplified Mathematics for Economics: Algebra and Calculus Part I - II*. Kifayat Academy.

## **ECO 402: Issues in Pakistan Economy**

### **Course Description**

This course introduces students to the key features and processes of macroeconomic management in Pakistan. It discusses critical economic issues and explores potential remedial measures. Topics include an overview of Pakistan's economy, development planning, resource mobilization, sectoral growth, and international relations. The course also covers various aspects of the social sector within the context of Pakistan.

### **Course Objective**

The objective of this course is to familiarize students with the macroeconomic landscape of Pakistan, highlighting the challenges and opportunities in economic development, planning, and resource mobilization. Students will gain a deeper understanding of the country's economic structure, sectoral development, and the role of international debt and trade in shaping the economy.

### **Course Contents**

#### **1. Introduction**

- Scope and New Developments in Economics
- Economic Development and Growth
- Characteristics of Less Developed Countries (LDCs)
- Measurement of Economic Development and Growth
- Current Issues in Pakistan and Their Impact on the Economy
- Budget Analysis

#### **2. Overview of the Economy of Pakistan**

- Development Experience: Approaches, Policies, and Outcomes
- Structural Change and Sources of Growth
- Issues in Human Resource Development, Unemployment, Poverty, Income Distribution, Debt, and Deficits

#### **3. Development Planning and Resource Mobilization**

- Agricultural Development Policies and Priorities
- Domestic Resource Mobilization
- The Agricultural vs. Industrial Development Debate

#### **4. Agricultural and Industrial Development**

- Patterns of Development
- Land Reforms and the Green Revolution
- Agricultural Price Policy and Industrial Development Strategies

#### **5. Sectoral Development, Employment Patterns, and Unemployment**

- Human Resource Development and Population Growth
- Unemployment and Underemployment: Measurement and Strategies

- Social Sector Development and Good Governance

## **6. International Debt and Dependency**

- Concepts of Foreign Aid and Debt
- Debt Management in Pakistan
- Debt Modeling and Future Implications

## **7. Poverty and Income Distribution**

- Rural and Urban Income Distribution
- Approaches to Measure Poverty
- Strategies to Combat Poverty

## **8. Inflation, Foreign Trade Deficit, and Emerging Issues**

- Sources of Inflation in Pakistan
- Trade Performance and WTO Impacts
- Reforms and Challenges in the Trade Sector

### **Recommended Books**

- Chaudhary, M. A., & Ahmad, E. (2004). Globalization, WTO, and Trade Liberalization in Pakistan . Feroz Sons.
- Chaudhary, M. A. (1989). Human Resource Development and Management in Pakistan . Feroz Sons.
- Saeed, K. A. (2004). The Economy of Pakistan . Oxford University Press.
- Mahbool-ul-Haq Centre for Human Development (1989). Poverty Profile of Pakistan . Oxford University Press.
- Aslam, M. (2002). Perspective on Development Planning in Pakistan . Allied Book Centre.
- Nasir, M. S. (2014). Economics of Pakistan . Imtiaz Book Depot.

## **ECO 403: Money and Banking**

### **Course Description**

This introductory course is designed to provide an overview of financial institutions and markets, with a focus on the history and functions of money, central banking, and the conduct of monetary policy. The course covers the structure of financial systems, the role of money in economic cycles, and the tools used by central banks to control the money supply.

### **Course Objective**

The objective of this course is to equip students with a fundamental understanding of money, banking, and financial markets. Students will learn about the operation of financial institutions in Pakistan and globally, the determination of interest rates, the causes of inflation, and the conduct of monetary policy.

### **Course Contents**

#### **1. Introduction**

- Importance of Studying Money, Banking, and Financial Markets
- The Bond Market, Stock Market, and Foreign Exchange Market
- Structure of the Financial System
- Money and Business Cycles, Inflation, and Interest Rates

#### **2. Money**

- Evolution and Functions of Money
- Measurement of Money (M1, M2, M3)
- Demand and Supply of Money
- The Role of Money in Aggregate Demand and Supply

#### **3. Money Demand and Money Supply**

- Quantity Theory of Money
- Transaction and Portfolio Theories of Money Demand
- Determinants of the Money Supply and Money Multiplier

#### **4. Banking**

- Structure and Functions of Central Banks
- Tools of Central Banks for Money Control
- Monetary Policy: Goals, Targets, and Tools
- Financial Intermediaries and Monetization of Public Debt

#### **5. Money and Interest Rates**

- Determinants and Theories of Interest Rates
- Real vs. Nominal Interest Rates
- Portfolio Choice and Asset Demand

## **6. Money and Inflation**

- Causes and Types of Inflation
- Inflation as a Monetary Phenomenon
- Inflation in Pakistan: Sources and Policies

## **7. Monetary Policy in an International Framework**

- Money Demand and Empirical Evidence
- Conduct of Monetary Policy with Fixed and Flexible Exchange Rates
- Impact of Reserves on Balance of Payments and Exchange Rates

### **Recommended Books**

- Mankiw, N. G. (latest edition). Principles of Macroeconomics . Worth Publishers.
- Walsh, C. E. (latest edition). Monetary Theory and Policy . MIT Press.
- Mishkin, F. S. (2012). Economics of Money, Banking, and Financial Markets (10th ed.). Prentice-Hall.
- Ball, L. (2011). Money, Banking and Financial Markets (2nd ed.). Worth Publishers.
- Lavoie, M., & Godley, W. (2012). Monetary Economics: An Integrated Approach to Credit, Money, Income, Production, and Wealth (2nd ed.). Palgrave Macmillan.
- Hubbard, R. G., & O'Brien, A. P. (2013). Money, Banking, and the Financial System (2nd ed.). Prentice-Hall.
- Cecchetti, S., & Schoenholtz, K. (latest edition). Money, Banking and Financial Markets . McGraw-Hill/Irwin.



## **ECO 404: International Trade and Finance**

### **Course Description**

This course offers a theoretical analysis of international trade and finance, emphasizing empirical evidence and real-world applications. Students will explore global trade patterns, trade policy instruments, and their effects on welfare. The course also covers the mechanisms of international finance and the challenges faced by countries in the global economy.

### **Course Objective**

The objective of this course is to provide students with a comprehensive understanding of international trade and finance. Students will develop the analytical skills needed to assess trade policies, understand global financial systems, and evaluate the economic implications of international trade and finance.

### **Course Contents**

#### **1. Introduction**

- Gains from Trade and the Pattern of Trade
- Protectionism and the Balance of Payments
- Exchange Rate Determination and International Policy Coordination

#### **2. Models of International Trade**

- The Ricardian Model and Comparative Advantage
- The Specific Factors Model and Income Distribution
- The Heckscher-Ohlin Model and Empirical Evidence
- The Standard Trade Model and Economic Growth

#### **3. Economics of Scale and Imperfect Competition**

- Economies of Scale and Market Structure
- Monopolistic Competition and Trade
- Dumping and External Economies

#### **4. International Factor Mobility and Trade Policy Instruments**

- International Labor Mobility and Foreign Investment
- Tariffs, Export Subsidies, Import Quotas, and Voluntary Export Restraints
- Trade Policies in Developing Countries and Trade-Related Issues in Pakistan

#### **5. International Finance**

- Current Patterns and History of International Finance
- National Income and the Balance of Payments
- Exchange Rate Systems and Monetary Policy in Fixed and Floating Rates

### **Recommended Books**

- Salvatore, D. (2013). International Economics (11th ed.). Wiley.
- Gerber, J. (2013). International Economics (6th ed.). Prentice-Hall.
- Reuvid, J., & Sherlock, J. (2011). International Trade: An Essential Guide to the Principles and Practice of Export (3rd ed.). Kogan Page.
- Pilbeam, K. (2013). International Finance (4th ed.). Palgrave Macmillan.
- Luk, K. W. (2011). International Trade Finance: A Practical Guide (2nd ed.). City University of Hong Kong Press.
- Krugman, P. R., Obstfeld, M., & Melitz, M. (2014). International Economics: Theory and Policy (10th ed.). Prentice Hall.
- Feenstra, R. C., & Taylor, A. M. (2011). International Economics (2nd ed.). Worth Publishers.
- Carbaugh, R. (2012). International Economics (14th ed.). Cengage Learning.
- Pugel, T. (2011). International Economics (15th ed.). McGraw-Hill/

## **ECO 501: Microeconomics**

### **Course Description**

This two-semester course in Microeconomics is designed to provide students with a thorough understanding of theoretical concepts and the practical applications of microeconomic theories. The first semester focuses on consumer economics, exploring how individual choices are made based on constraints and preferences. In the second semester, students will delve into market economics. This course is geared toward developing a strong foundation in microeconomic theory, equipping students with analytical tools to assess consumer behavior in real-world scenarios. A solid background in basic economics and familiarity with calculus (first and second derivatives) is required.

### **Course Objectives**

By the end of this course, students will:

1. Understand the foundational theories of consumer behavior.
2. Develop proficiency in using economic tools to analyze consumer decisions.
3. Apply core microeconomic principles to practical consumer-related issues and policy debates.
4. Analyze the implications of economic policies such as taxes and subsidies on consumer behavior.
5. Explore advanced concepts like risk, uncertainty, and information asymmetry in economic decision-making.

### **Course Contents**

#### **A. Introduction**

- Working tools of economic analysis: Graphs, equations, and calculus.
- Subject matter of economics: Economic problems, circular flow of economic activity, basic economic concepts.
- Nature of economic analysis: Rationality assumption, economic explanation, and scope.

#### **B. Consumer Theory**

- Budget constraint: Concepts and applications, including the impact of taxes and subsidies.
- Utility theory: Cardinal and ordinal utility, indifference curves, applications of indifference curves.
- Consumer equilibrium: Comparative static analysis, income and price consumption curves, Engel curves, demand curves.

- Substitution and income effect: Derivation of compensated and uncompensated demand curves, Slutsky equation.
- Elasticities of demand: Market analysis and demand curves, consumer surplus.
- Mathematical applications in consumer theory.
- Revealed recommended and choice; Index numbers.

### **C. Applications of Consumer Theory**

- Inter-temporal decisions: Income-leisure choice.
- Financial microeconomics: Lending-borrowing equilibrium, saving-consumption decisions, investment decisions.
- Applications of financial microeconomics.

### **D. Exchange Economy General Equilibrium**

- Bilateral pure exchange: Edgeworth box, Pareto optimality, contract curve.
- Exchange rates and offer curve in pure exchange.
- Competitive equilibrium and mathematical application to exchange efficiency.

### **E. Choice Under Uncertainty**

- Risk and uncertainty in demand choices: Managing risk, utility theory and risk aversion, insurance, and gambling.
- Risk aversion and indifference curves; Reducing risk and uncertainty.

### **F. Economics of Information**

- Economics of search: Asymmetric information, adverse selection, moral hazard.
- Market signaling; Principal-agent problem.

### **Recommended Books**

1. Besanko, D. A., & Braeutigam, R. L. (2020). Microeconomics (6th ed.). John Wiley & Sons, Inc.
2. Pindyck, R. S., & Rubinfeld, D. L. (2018). Microeconomics (9th ed.). Pearson.
3. Varian, H. R. (2014). Intermediate microeconomics: A modern approach (9th ed.). W. W. Norton & Company.
4. Krugman, P., & Wells, R. (2009). Microeconomics (2nd ed.). Worth Publishers.

5. Snyder, C., & Nicholson, W. (2008). *Microeconomic theory: Basic principles and extensions* (10th ed.). Thomson South-Western.

6. Pasha, H. A., Ahmed, N., & Jamal, Y. (1987). *Case studies in applied microeconomics*. Oxford University Press.

## ECO 502: Microeconomics

### Course Description

This course is a continuation of Microeconomics I (ECO 511) and focuses on market organizations. It introduces advanced microeconomic concepts related to market structures and the behavior of firms in competitive and non-competitive markets. Students will learn to apply microeconomic theories to address issues in economic policy. By the end of the course, students will have developed skills to understand and analyze specific economic problems using microeconomic concepts.

### Course Objectives

By the end of this course, students should be able to:

- Understand the behavior of firms.
- Analyze different types of market structures (monopoly, oligopoly, and competitive markets).
- Apply economic principles to practical market-related issues and policy questions.
- Utilize graphical methods and differential calculus in microeconomic analysis.

### Course Contents

#### 1. Theory of Production and Cost

- Production function; short-run and long-run analysis; law of diminishing returns; Isoquants; Isocost lines; optimization of inputs; elasticity of substitution; technical progress; and mathematical applications.
- Concepts of costs; short-run and long-run cost theory; economies and diseconomies of scale; and mathematical applications to cost theory.

#### 2. Theory of Firm and Market Organization

- Analysis of perfect competition, monopoly, monopolistic competition, and oligopoly; revenue and cost relationships; market equilibrium; price discrimination; producer surplus; game theory; and mathematical applications.

#### 3. Theory of Distribution

- Factor pricing, demand and supply of factors, marginal productivity theory, monopsony, and mathematical applications.

#### 4. Market Behavior with Asymmetric Information

- Market signaling, adverse selection, moral hazard, and hidden action.

### Recommended Books

- Besanko, D. A., & Braeutigam, R. R. (2020). *Microeconomics* (5th ed.). John Wiley & Sons.
- Pindyck, R. S., & Rubinfeld, D. L. (2018). *Microeconomics* (9th ed.). Pearson.
- Snyder, C., & Nicholson, W. (2008). *Microeconomic Theory: Basic Principles and Extensions* (10th ed.). Thomson South-Western.
- Salvatore, D. (2003). *Microeconomics: Theory and Applications* (4th ed.). Oxford University Press.
- Koutsoyiannis, A. (2003). *Modern Microeconomics* (2nd ed.). Palgrave Macmillan.

## ECO 503: Macroeconomics

### Course Description

This course is the first part of a two-semester sequence on Macroeconomic Analysis. It aims to develop a comprehensive understanding of the macroeconomy, focusing on the relationships between macroeconomic variables, business cycle fluctuations, and long-term economic growth. The course emphasizes the effects of demand management policies and supply shocks in both closed and open economy contexts.

### Course Objectives

By the end of this course, students should be able to:

- Understand the functioning of the macroeconomy and its key variables.
- Analyze short-run business cycle fluctuations and long-term economic growth.
- Apply macroeconomic models to assess the impact of policy measures in various economic scenarios.

### Course Contents

#### 1. Introduction

- Overview of macroeconomic analysis, key concepts, and models; review of national income accounting.

#### 2. Goods Market and Money Market Equilibrium Conditions

- IS-LM model, aggregate consumption, saving and investment, money market equilibrium, and policy analysis.

#### 3. IS-LM Equilibrium, Aggregate Demand and Aggregate Supply

- Analysis of aggregate demand and supply, labor market equilibrium, and policy effects in the IS-LM-LAS model.

#### 4. Rational Expectations

- Expectations formation mechanisms, adaptive and rational expectations, and their implications for macroeconomic policy.

#### 5. Business Cycle: Theories and Models

- Real Business Cycle theory, New Keynesian Business Cycle theory, and the role of fiscal and monetary policies.

### Recommended Books

- Abel, A. B., Bernanke, B., & Croushore, D. (2013). *Macroeconomics* (8th ed.). Prentice Hall.
- McConnell, C., Brue, S., & Flynn, S. (2011). *Macroeconomics* (19th ed.). McGraw-Hill/Irwin.
- Romer, D. (2011). *Advanced Macroeconomics* (4th ed.). McGraw-Hill/Irwin.
- Mankiw, N. G. (2012). *Macroeconomics* (8th ed.). Worth Publishers.
- Krugman, P., & Wells, R. (2012). *Macroeconomics* (3rd ed.). Worth Publishers.

## **ECO 504: Macroeconomics**

### **Course Description**

This course is a continuation of Macroeconomics I and extends the analysis to open economies and long-term economic growth. It explores the role of government in economic management and applies mathematical tools to analyze theories and models in a purely analytical framework.

### **Course Objectives**

By the end of this course, students should be able to:

- Understand open economy macroeconomics and the foreign exchange market.
- Analyze theories of consumption, investment, and economic growth.
- Evaluate the impact of government spending and taxation on the macroeconomy.

### **Course Contents**

#### **1. Open Economy Macroeconomics**

- Foreign exchange market, open economy IS curve, demand management policies, and exchange rate systems.

#### **2. Aggregate Consumption and Investment**

- Theories of consumption, intertemporal choice, investment demand, and financial side of investment.

#### **3. Economic Growth**

- Sources of growth, growth models (Harrod-Domar, Solow, endogenous growth), and government policies to enhance growth.

#### **4. Government Spending and its Financing**

- Analysis of government budgets, taxation, deficits, debts, and their macroeconomic implications.

### **Recommended Books**

- Abel, A. B., Bernanke, B., & Croushore, D. (2013). *Macroeconomics* (8th ed.). Prentice Hall.
- Romer, D. (2011). *Advanced Macroeconomics* (4th ed.). McGraw-Hill/Irwin.
- Mankiw, N. G. (2012). *Macroeconomics* (8th ed.). Worth Publishers.
- Olsson, O. (2012). *Essentials of Advanced Macroeconomic Theory*. Routledge.
- Froyen, R. T. (2012). *Macroeconomics: Theories and Policies* (10th ed.). Prentice Hall.



## **ECO 505: Statistics for Economists**

### **Course Description**

This course provides an understanding of descriptive statistical methods, emphasizing the application of statistical results to economic data. Students will learn how to graphically and numerically describe data and how to interpret these statistics in an economic context.

### **Course Objectives**

By the end of this course, students should be able to:

- Understand key statistical concepts and their applications in economics.
- Use graphical and tabular techniques to describe data.
- Apply numerical descriptive techniques to summarize data effectively.
- Analyze relationships between variables using statistical methods.

### **Course Contents**

#### **1. Introduction**

- Key statistical concepts, applications in business and economics, and the role of computers in statistics.

#### **2. Graphical and Tabular Descriptive Techniques**

- Techniques for nominal and interval data, stem-and-leaf displays, and time series data presentation.

#### **3. Numerical Descriptive Techniques**

- Measures of central location, variability, relative standing, skewness, and correlation.

#### **4. Moments, Skewness, and Kurtosis**

- Calculation of moments, skewness, and kurtosis for both ungrouped and grouped data.

#### **5. Covariance, Correlation, and Regression**

- Scatter diagrams, covariance, correlation coefficients, and linear regression models.

#### **6. Index Numbers**

- Price indices, quantity indices, composite indices, and their applications.

### **Recommended Books**

- Waheed, A. (2022). Statistical Analysis in Business and Economics. Royal Book Company.
- Keller, G. (2014). Statistics for Management and Economics (10th ed.). Cengage Learning.
- Lind, D. A., Marchal, W. G., & Wathen, S. A. (2018). Statistical Techniques in Business and Economics (17th ed.). McGraw-Hill Education.
- Hussain, S. M. A. (2005). Tools of Statistical Analysis . Kifayat Academy.
- Lewis, M. (2012). Applied Statistics for Economists . Routledge.
- Walpole, R. E. (1982). Introduction to Statistics (3rd ed.). Macmillan Publishing Co., Inc.

## ECO 506: Statistics for Economists

### Course Description

This course continues from Advanced Economic Statistics I, focusing on statistical inference procedures. It emphasizes the economic interpretation of statistical results and the application of these methods to economic data.

### Course Objectives

By the end of this course, students should be able to:

- Understand probability concepts and their applications in economics.
- Analyze different types of probability distributions and their properties.
- Perform statistical inference using sampling, estimation, and hypothesis testing methods.
- Apply regression analysis and time series analysis to economic data.

### Course Contents

#### 1. Probability Concepts

- Basic probability, joint and marginal probabilities, conditional probability, and principles of counting.

#### 2. Probability Distributions and Mathematical Expectations

- Discrete and continuous distributions, binomial, Poisson, uniform, normal, t-distribution, Chi-square distribution, and F-distribution.

#### 3. Sampling and Sampling Distribution

- Sampling methods, central limit theorem, and sampling distribution of the mean, proportion, and variance.

#### 4. Statistical Inference: Estimation

- Point estimation, properties of good estimators, and interval estimation.

#### 5. Statistical Inference: Hypothesis Testing

- Hypothesis testing for mean, proportion, and variance; analysis of variance (ANOVA).

#### 6. Regression and Time Series Analysis

- Simple and multiple regression analysis, forecasting techniques, and introduction to time series analysis.

### Recommended Books

- Waheed, A. (2022). Statistical Analysis in Business and Economics. Royal Book Company.
- Keller, G. (2014). Statistics for Management and Economics (10th ed.). Cengage Learning.
- Lind, D. A., Marchal, W. G., & Wathen, S. A. (2018). Statistical Techniques in Business and Economics (17th ed.). McGraw-Hill Education.
- Hussain, S. M. A. (2005). Tools of Statistical Analysis . Kifayat Academy.
- Lewis, M. (2012). Applied Statistics for Economists . Routledge.
- Walpole, R. E. (1982). Introduction to Statistics (3rd ed.). Macmillan Publishing Co., Inc.

## **ECO 507: Public Finance**

### **Course Description**

This course in Public Finance explores public sector expenditures and revenues, with the expenditure side covered in the first semester and the revenue side in the second semester. The course emphasizes microeconomic analysis to understand how public authorities manage expenditures and the associated regulations to optimize outcomes. A foundational knowledge of consumer theory, theory of cost, and market structure is essential.

### **Course Objectives**

1. Understand the principles of public sector expenditures and revenues.
2. Analyze the role of microeconomics in public finance.
3. Evaluate government interventions in market failures and their implications on efficiency and equity.

### **Course Contents**

#### **1. Introduction**

- Overview of government functions and budget analysis.
- Role of government in household and firm consumption.
- Classical theories on government intervention.

#### **2. Efficiency Conditions and Social Welfare Maximization**

- Consumption and production efficiency conditions.
- Pareto efficiency and its attainment.
- Social welfare maximization principles.

#### **3. Market Failure: Rationale for Government Intervention**

- Conflicts between private and social interests.
- Understanding externalities, public goods, and imperfect competition.
- Equity in income distribution.

#### **4. Public Sector Expenditures**

- Classification and growth of public expenditures.
- Analysis of public expenditures in Pakistan.

#### **5. Economic Effects of Public Expenditures**

- Effects on production and distribution.
- Other economic impacts.

#### **6. Project Evaluation**

- Measuring benefits and costs.
- Criteria for project selection.

### **Recommended Books**

- Brown, C. V., & Jackson, P. (1991). *Public Sector Economics* (4th ed.). Wiley-Blackwell.
- Hyman, D. N. (2013). *Public Finance: A Contemporary Application of Theory to Policy* (11th ed.). Cengage Learning.
- Rosen, H. S., & Gayer, T. (2014). *Public Finance* (10th Rev. ed.). McGraw Hill Higher Education.
- Ulbrich, H. H. (2011). *Public Finance in Theory and Practice* (2nd ed.). Routledge.
- Tresch, R. W. (2014). *Public Finance* (3rd ed.). Academic Press.

## **ECO 508: Public Finance**

### **Course Description**

This course examines the fiscal policies employed by governments to generate revenue, particularly through taxation. It focuses on the tax structure in Pakistan, fiscal federalism, and ongoing debates regarding tax policy.

### **Course Objectives**

1. Analyze the significance of public sector revenue.
2. Evaluate different taxation policies and their impacts on the economy.
3. Discuss fiscal federalism and its implications for Pakistan's economy.

### **Course Contents**

#### **1. Public Sector Revenue**

- Importance and sources of government revenues.
- Balancing revenues and expenditures.

#### **2. Basic Concepts of Taxation**

- Direct vs. indirect taxes and their implications.
- Tax buoyancy and elasticity.

#### **3. Equity in Taxation**

- Understanding equity in taxation and approaches to measure it.
- Current debates on tax equity.

#### **4. Tax Incidence**

- Analyzing statutory vs. economic tax incidence.
- Impact of taxes across market structures.

#### **5. Excess Burden and Efficient Tax Design**

- Identifying causes of excess burden and policies to mitigate it.

#### **6. Taxation and Household Decisions**

- Examining how income tax affects labor supply and consumption.

#### **7. Corporate Income Tax**

- Understanding tax incidence and its effects on corporate behavior.

#### **8. Fiscal Federalism and Tax Structure of Pakistan**

- Evaluating Pakistan's tax structure and current issues in tax policy.

### **Recommended Books**

- Brown, C. V., & Jackson, P. (1991). *Public Sector Economics* (4th ed.). Wiley-Blackwell.
- Hyman, D. N. (2013). *Public Finance: A Contemporary Application of Theory to Policy* (11th ed.). Cengage Learning.
- Rosen, H. S., & Gayer, T. (2014). *Public Finance* (10th Rev. ed.). McGraw Hill Higher Education.
- Ulbrich, H. H. (2011). *Public Finance in Theory and Practice* (2nd ed.). Routledge.
- Tresch, R. W. (2014). *Public Finance* (3rd ed.). Academic Press.

## **ECO 509: Development Planning**

### **Course Description**

This course provides insights into economic planning as a tool for managing economies, especially in mixed economies. It examines development theories, planning models, and the implications of planning in Pakistan.

### **Course Objectives**

1. Understand the significance of economic planning and its theories.
2. Analyze different planning models and their applications.
3. Discuss the challenges and future of economic planning.

### **Course Contents**

#### **1. Introduction**

- The importance of economic planning and its interdisciplinary links.

#### **2. Development Planning: Theory and Practice**

- Planning frameworks in capitalist, collectivist, and mixed economies.

#### **3. Types of Planning Models**

- Overview of aggregate growth, sectoral projection, and comprehensive inter-industry models.

#### **4. Types of Economic Planning**

- Instruments of planning: control, inducement, and direction.

#### **5. Issues in Economic Planning**

- Challenges in implementation and the resurgence of market

#### **6. Policy Options**

- Analyzing monetary, fiscal, and commercial policy tools.

#### **7. Financing Economic Development**

- Exploring foreign finance and domestic resource mobilization.

#### **8. Economic Decision Making**

- Management approaches in short to medium-term planning.

### **Recommended Books**

- Thirlwall, A. P. (2006). Growth and Development (8th ed.). Palgrave Macmillan.
- Weil, D. N. (2012). Economic Growth (3rd ed.). Prentice Hall.
- Perkins, D. H., Radelet, S., Lindauer, D. L., & Block, S. (2012). Economics of Development (7th ed.). W. W. Norton & Company.
- Nafziger, E. W. (2012). Economic Development (5th ed.). Cambridge University Press.

- Heikkila, E. J. (2000). The Economics of Planning . Center for Urban Policy Research.
- Little, I. M. D., & Mirrlees, J. A. (1969). Manual of Industrial Project Analysis in Developing Countries . OECD Development Centre.



## **ECO 510: Development Planning**

### **Course Description**

Building on the first part, this course delves deeper into economic planning theories and models, with a focus on practical applications in Pakistan and the assessment of its development plans.

### **Course Objectives**

1. Critically evaluate the effectiveness of economic planning in developing countries.
2. Analyze the impact of global trends on national economic plans.
3. Explore case studies of successful and unsuccessful planning initiatives.

### **Course Contents**

#### **1. Review of Planning Models**

- Assessing the performance of previous planning models.

#### **2. Strategic Planning**

- Understanding the principles of strategic planning and its role in policy formulation.

#### **3. Sectoral Planning**

- Examination of sector-specific plans (agriculture, industry, services).

#### **4. Regional Planning**

- Exploring spatial planning and its implications for balanced regional development.

#### **5. Monitoring and Evaluation**

- Techniques for evaluating the success of development plans and projects.

#### **6. Policy Formulation**

- Understanding the role of evidence in policy formulation.

#### **7. Challenges in Implementation**

- Identifying barriers to successful planning and strategies to overcome them.

#### **8. Future Trends in Economic Planning**

- The impact of globalization and digital technologies on economic planning.

### **Recommended Books**

- Thirlwall, A. P. (2006). *Growth and Development* (8th ed.). Palgrave Macmillan.
- Weil, D. N. (2012). *Economic Growth* (3rd ed.). Prentice Hall.
- Perkins, D. H., Radelet, S., Lindauer, D. L., & Block, S. (2012). *Economics of Development* (7th ed.). W. W. Norton & Company.
- Nafziger, E. W. (2012). *Economic Development* (5th ed.). Cambridge University Press.
- Heikkila, E. J. (2000). *The Economics of Planning*. Center for Urban Policy Research.

- Little, I. M. D., & Mirrlees, J. A. (1969). Manual of Industrial Project Analysis in Developing Countries . OECD Development Centre.

## **ECO 601: Monetary Economics**

### **Course Description**

This course explores the theoretical underpinnings and empirical observations of monetary economics, focusing on the roles of money supply, demand, and the banking system in economic activity.

### **Course Objectives**

1. Analyze the functions and types of money.
2. Examine the determinants of money supply and demand.
3. Understand the role of central banks and monetary policy.

### **Course Contents**

#### **1. Introduction to Monetary Economics**

- Definition and importance of money in the economy.

#### **2. Functions of Money**

- Medium of exchange, unit of account, and store of value.

#### **3. Types of Money**

- Commodity, fiat, and digital currencies.

#### **4. Money Supply and Demand**

- Factors influencing money supply and demand.

#### **5. Central Banks and Monetary Policy**

- Role of central banks and instruments of monetary policy.

#### **6. Monetary Policy and Economic Activity**

- Impact of monetary policy on inflation, unemployment, and economic growth.

#### **7. Banking System and Financial Markets**

- Understanding the structure and functions of the banking system.

#### **8. International Monetary Economics**

- Overview of international monetary systems and exchange rates.

### **Recommended Books**

- Mishkin, F. S. (2018). *The Economics of Money, Banking, and Financial Markets* (11th ed.). Pearson.
- Blanchard, O., & Johnson, D. R. (2013). *Macroeconomics* (6th ed.). Pearson.
- Bernanke, B. S., & Gertler, M. (1995). *Monetary Policy and Asset Price Volatility*. Federal Reserve Bank of Kansas City.

- Friedman, M., & Schwartz, A. J. (1963). *A Monetary History of the United States, 1867–1960* . Princeton University Press.
- Woodford, M. (2003). *Interest and Prices: Foundations of a Theory of Monetary Policy* . Princeton University Press.

## **ECO 602: Monetary Economics**

### **Course Description**

This course serves as the applied side of monetary economics, focusing on the tools of monetary policy and their objectives. It aims to equip students with the knowledge to understand how authorities control the supply and demand of money, target interest rates, and support economic growth and stability.

### **Course Objectives**

1. Analyze various tools of monetary policy and their effectiveness.
2. Understand the dynamics of the foreign exchange market and international financial systems.
3. Evaluate the demand for money and its theoretical underpinnings.
4. Explore the IS-LM model in relation to monetary and fiscal policy.
5. Investigate aggregate demand and supply analysis.
6. Assess the transmission mechanisms of monetary policy.
7. Examine the relationship between money and inflation.
8. Discuss rational expectations and their implications for policy evaluation.

### **Course Contents**

#### **1. Tools of Monetary Policy**

- Market for reserves and the discount rate.
- Open market operations and reserve requirements.
- Historical perspective on monetary policy goals.

#### **2. The Foreign Exchange Market and the International Financial System**

- Foreign exchange rates and their equilibrium.
- The role of the IMF and international monetary strategies.

#### **3. The Demand for Money**

- Theories of money demand, including Keynesian and Friedman's perspectives.

#### **4. Keynesian Framework and The IS-LM Model**

- Aggregate output determination and the role of investment.

#### **5. Monetary and Fiscal Policy in the IS-LM Model**

- Factors influencing the IS and LM curves and equilibrium changes.

#### **6. Aggregate Demand and Supply Analysis**

- Monetarist and Keynesian views on aggregate demand and supply.

#### **7. Transmission Mechanisms of Monetary Policy**

- Evaluating empirical evidence on policy effectiveness.

## **8. Money and Inflation**

- The relationship between money supply and inflation.

## **9. Rational Expectations**

- Comparison of new classical and new Keynesian models.

### **Recommended Books**

- McCallum, B. T. (1989). *Monetary Economics: Theory and Policy*. Macmillan Publishing Company.
- Walsh, C. E. (2010). *Monetary Theory and Policy* (3rd ed.). The MIT Press.
- Pierce, D. G., & Tysome, P. J. (1985). *Monetary Economics: Theories, Evidence and Policy* (2nd ed.). Butterworth-Heinemann.
- Romer, D. (2011). *Advanced Macroeconomics* (4th ed.). McGraw-Hill/Irwin.
- Mishkin, F. S. (2009). *Monetary Policy Strategy*. The MIT Press.

## **ECO 603: International Economics**

### **Course Description**

This course provides students with analytical training in international trade and finance theories, enabling them to critically evaluate policy debates surrounding international trade issues. It covers various theoretical models and the impact of international trade on economic growth.

### **Course Objectives**

1. Understand the importance and features of international economics.
2. Analyze pure theories of international trade, including comparative advantage.
3. Evaluate the standard trade model and its implications.
4. Explore the Heckscher-Ohlin model and its relevance to trade patterns.
5. Examine the role of economies of scale and imperfect competition in trade.
6. Assess the effects of tariffs and trade restrictions on national economies.

### **Course Contents**

#### **1. Introduction**

- Importance of international economics and national interests.

#### **2. The Pure Theories of International Trade**

- Mercantilism, absolute and comparative advantage, opportunity cost theory.

#### **3. The Standard Trade Model**

- Production frontiers and gains from trade.

#### **4. The Heckscher-Ohlin Model**

- Factor intensity and the factor price equalization theorem.

#### **5. Economies of Scale, Imperfect Competition and International Trade**

- Trade based on product differentiation and technological gaps.

#### **6. Trade Restrictions: Tariff**

- Types of tariffs and their economic effects.

### **Recommended Books**

- Salvatore, D. (2012). Introduction to International Economics (3rd ed.). John Wiley & Sons, Inc.
- Appleyard, R. D., & Field, S. J. JR. (2017). International Economics (9th ed.). McGraw-Hill Education.
- Pugel, T. A. (2016). International Economics (16th ed.). McGraw-Hill Education.
- Krugman, P. R., Obstfeld, M., & Melitz, M. (2018). International Economics (11th ed.). Pearson.

## **ECO 604: International Economics**

## **Course Description**

This course focuses on international finance and monetary issues, including national income accounting, balance of payments, and exchange rates. Students will critically evaluate the consequences of international finance on economic and non-economic aspects.

## **Course Objectives**

1. Analyze non-tariff trade barriers and their implications.
2. Understand the forms and effects of economic integration.
3. Explore the relationship between international trade and economic development.
4. Examine international resource movements and the role of multinational corporations.
5. Evaluate the balance of payments and its components.
6. Understand the dynamics of exchange rates and the foreign exchange market.

## **Course Contents**

### **1. Non-tariff Trade Barriers**

- Import quotas, dumping, and political economy of protectionism.

### **2. Economic Integration**

- Types of economic integration and their benefits.

### **3. Growth and Development with International Trade**

- Trade theory's contributions to economic development.

### **4. International Resource Movements and Multinational Corporations**

- Effects of international capital flows and labor migration.

### **5. Balance of Payments**

- Definition and components of the balance of payments.

### **6. Exchange Rates and the Foreign Exchange Market**

- Demand for currency and equilibrium in the foreign exchange market.

### **7. Money, Interest Rates, and Exchange Rates**

- Linking money markets to foreign exchange dynamics.

## **Recommended Books**

- Salvatore, D. (2012). Introduction to International Economics (3rd ed.). John Wiley & Sons, Inc.
- Krugman, P. R., Obstfeld, M., & Melitz, M. (2018). International Economics (11th ed.). Pearson.
- Appleyard, R. D., & Field, S. J. JR. (2017). International Economics (9th ed.). McGraw-Hill Education.
- Pugel, T. A. (2016). International Economics (16th ed.). McGraw-Hill Education.

## **ECO 605: Econometrics**



## **Course Description**

This course provides an introduction to econometrics, focusing on the application of statistical methods to economic data. It covers the basics of econometric analysis, including regression models and the use of computer software for data analysis.

## **Course Objectives**

- To familiarize students with the fundamental concepts of econometrics.
- To develop skills in using regression models for economic analysis.
- To apply econometric techniques to real-world economic issues.

## **Course Contents**

### **1. Introduction**

- Introduction to econometrics as a separate discipline
- Methodology of econometrics
- Types of econometrics
- Mathematical and statistical prerequisites
- Use of computer software in econometrics

### **2. Nature of Regression Analysis and Two Variable Regression Analysis**

- Origin and interpretation of regression
- Statistical vs. deterministic relationships
- Regression, causation, and correlation
- Nature and sources of data
- Population regression function vs. sample regression function
- Linearity in variables and parameters
- Stochastic specification of PRF
- Significance of stochastic disturbance term

### **3. Two-Variable Regression Model**

- Method of Ordinary Least Squares
- Classical Linear Regression Model
- Precision or standard errors
- Properties of least-squares estimators
- Coefficient of determination
- Derivation of least-squares estimates

### **4. Classical Normal Linear Regression Model (CNLRM)**

- Probability distribution of disturbances
- Normality assumption
- Properties of OLS estimators under normality assumption
- Method of Maximum Likelihood (ML)

### **5. Two-Variable Regression: Interval Estimation and Hypothesis Testing**

- Revision of statistical tools as prerequisites
- Interval estimation
- Confidence intervals for regression coefficients
- Hypothesis testing: practical aspects
- Regression analysis and analysis of variance
- Reporting and evaluating the results of regression analysis

## **6. Extensions of the Two-Variable Linear Regression Model**

- Regression through the origin
- Scaling and units of measurement
- Regression on standardized variables
- Functional forms of regression models
- Measurement of elasticity
- Log-linear model, semi-log model, reciprocal model

## **7. Multiple Regression Analysis**

- Three-variable model
- Interpretation of multiple regression equation
- Partial regression coefficients
- OLS and ML estimation of partial regression coefficients
- Multiple coefficient of determination
- Specification bias

## **8. Dummy Variable Regression Models**

- Nature of dummy variables
- ANOVA models
- Regression with a mixture of quantitative and qualitative regressors
- Interaction effects using dummy variables

### **Recommended Books**

- Waheed, A. (2023). *Econometrics: Application with EViews*. Royal Book Company.
- Baltagi, B. H. (2013). *Econometric analysis of panel data* (5th ed.). Wiley.
- Gujarati, D. N. (2010). *Basic econometrics* (5th rev. ed.). McGraw-Hill.
- Wooldridge, J. M. (2012). *Introductory econometrics: A modern approach* (5th ed.). Cengage Learning.

## ECO 606: Econometrics

### Course Description

This course builds upon Econometrics I, focusing on data handling, remedial measures for econometric issues, and the specification of economic models. It emphasizes the analysis of time series data and the application of econometric techniques to real-world problems.

### Course Objectives

- To understand and address issues related to multicollinearity, heteroscedasticity, and autocorrelation.
- To analyze time series data and apply appropriate econometric models.
- To develop skills in interpreting econometric results effectively.

### Course Contents

#### 1. Multicollinearity

- Nature and estimation in the presence of multicollinearity
- Detection and remedial measures

#### 2. Heteroscedasticity

- Nature and OLS estimation
- Generalized Least Squares (GLS)
- Detection and remedial measures

#### 3. Autocorrelation

- Nature and estimation in the presence of autocorrelation
- Detection and correction methods

#### 4. Specification Bias

- Types of specification errors
- Consequences and tests for omitted variables
- Model specification criteria

#### 5. Regression Analysis with Time-Series Data

- Introduction to spurious regressions
- Transformation of variables to stationary form
- Dicky-Fuller unit root tests
- ARDL model

#### 6. Cointegration and Error Correction Model (ECM)

- Testing for cointegration
- Economic applications of ECM

**Recommended Books**

- Waheed, A. (2023). *Econometrics: Application with EViews*. Royal Book Company.
- Baltagi, B. H. (2013). *Econometric analysis of panel data* (5th ed.). Wiley.
- Gujarati, D. N. (2010). *Basic econometrics* (5th rev. ed.). McGraw-Hill.
- Wooldridge, J. M. (2012). *Introductory econometrics: A modern approach* (5th ed.). Cengage Learning.

## **ECO-607: Research Methodology**

### **Course Description**

This course provides a comprehensive introduction to the research process, focusing on both pure and applied studies. Students will explore the nature and purpose of research, learn how to identify and access relevant resources such as journals and databases, and gain practical skills in writing research proposals. Emphasis is placed on quantitative research techniques, data collection, analysis, and reporting. The course also covers ethical considerations, including scientific misconduct, and introduces students to bibliographic databases essential for conducting rigorous research. By the end of the course, students will be equipped to design, conduct, and present their own research studies.

### **Course Objectives**

This course is designed to introduce students to the process of research. More specifically, the objectives of this course are to enable the students to:

- Understand the nature and purpose of the research.
- Identify and access resources, such as journals and databases for research.
- Be able to write the research proposal and conduct pure and applied studies.
- Be familiar with a wide range of quantitative research techniques and approaches.
- Develop an understanding of collecting, analyzing, and reporting the data.
- Be able to generate, interpret, and report the results.
- Be familiar with different bibliographic databases.
- Be familiar with different scientific misconducts.

### **Course Contents**

#### **1. Introduction to Research**

- Meaning of Research
- Characteristics of Research
- Research Problem
- Classification of Research
  - Basic and Applied Research
  
  - Deductive and Inductive Research Approaches
  
  - Quantitative and Qualitative Research
  
  - Research Methods versus Research Methodology
- Types of Research Studies
  - Exploratory Study

Descriptive Study

Explanatory Study

Longitudinal Study

Cross-sectional Study

Case Study

\* The Research Process

## **2. The Research Proposal**

- Attributes of Good Research Proposal
- Contents of the Thesis/Dissertation Proposal
- Contents of Research Project Proposal

## **3. The Review of Literature**

- Need for the Literature Review
- Guidelines for the Literature Reviews
- Bibliography and References
- Sources of Literature

Primary Literature

Secondary Literature

Tertiary Literature

- Types of Literature Review
- Critical Review

Systematic Review

Mapping Review

- Search Tools for Researchers
- Online Resources
- Bibliographic Databases

## **4. Data Analysis**

- Univariate Data Analysis
- Bivariate Data Analysis
- Multivariate Data Analysis

## Recommended Books:

1. Waheed, A. (2020). *Quantitative Research Methods: A Practical Approach*. Royal Book Company.
2. Waheed, A. (2022). *Statistical Analysis in Business and Economics*. Royal Book Company.
3. Cooper, D. R., and Schindler, P. S. (2008). *Business Research Methods*. 10<sup>th</sup> Edition. McGraw-Hill Companies, Inc.
4. Kumar, M., Talib, S. A., and Ramayah, T. (2013). *Business Research Methods*. Oxford University Press.
5. Saunders, M. N. K., Lewis, P., and Thornhill, A. (2009). *Research Methods for Business Students*. 5<sup>th</sup> Edition. Prentice-Hall

## **ECO-608: Research Methodology**

### **Course Description**

This course builds upon the foundation of research methodology introduced in the first semester. It is designed to equip students with advanced research skills and techniques necessary for conducting rigorous and impactful research. Students will explore in-depth data collection methods, advanced statistical tools, hypothesis testing, and research ethics. The course also emphasizes writing and presenting scientific research, with a focus on refining proposals, reports, and dissertations.

### **Course Objectives**

By the end of the course, students will be able to:

- Gain an in-depth understanding of different research designs and sampling techniques.
- Apply advanced quantitative and qualitative data analysis methods.
- Develop skills for constructing and testing research hypotheses.
- Understand the ethical considerations involved in research.
- Master advanced research tools, such as statistical software for data analysis.
- Write a comprehensive research paper, dissertation, or thesis.
- Present research findings professionally and with academic rigor.

### **Course Contents**

#### **1. Research Design and Sampling Techniques**

- Research Design Overview
- Descriptive vs. Experimental Research
- Sampling Techniques
  - Probability Sampling
  - Non-probability Sampling
  - Sample Size Determination
- Validity and Reliability in Research
- Constructing Hypotheses and Testing Them

#### **2. Advanced Data Collection Techniques**

- Questionnaire Design
  - Types of Questions
  - Validating a Questionnaire
  - Pretesting
- Survey Methods
- Interviews and Focus Groups
  - Structured, Semi-structured, and Unstructured
  - Ethical Issues in Data Collection
- Observation Methods



### **3. Advanced Data Analysis**

- Hypothesis Testing
  - Null and Alternative Hypotheses
  - Type I and Type II Errors
- Parametric vs. Non-parametric Tests
  - Chi-square Test
  - T-tests (One-sample, Two-sample)
  - ANOVA (Analysis of Variance)
- Regression Analysis
  - Simple and Multiple Regression
- Factor Analysis and Cluster Analysis
  - Exploratory Factor Analysis
  - Cluster Analysis in Market Research
- Introduction to Structural Equation Modeling (SEM)

### **4. Qualitative Research Methods**

- Grounded Theory
- Ethnography
- Case Study Methodology
- Content Analysis
- Thematic Analysis

### **5. Research Ethics and Integrity**

- Ethical Issues in Research
  - Informed Consent
  - Confidentiality
  - Plagiarism and Academic Misconduct
- Institutional Review Board (IRB) Approval
- Ethical Reporting of Research Results

### **6. Writing a Research Paper, Thesis, and Dissertation**

- Structure of a Scientific Paper
  - Abstract
  - Introduction
  - Methods
  - Results
  - Discussion
- Writing Style
  - Clarity, Conciseness, and Coherence
- Using Statistical Software (SPSS, STATA, R, EViews) for Report Writing

### **7. Presentation of Research Findings**

- Visualizing Data

- Charts, Graphs, and Tables
- Using Software for Data Presentation (e.g., SPSS)
- Oral Presentation Skills
  - Defending Research in Academic Settings
  - Handling Questions and Feedback
- Writing for Publication
  - Peer-review Process

### **Recommended Books**

1. Waheed, A. (2020). *Quantitative Research Methods: A Practical Approach*. Royal Book Company.
2. Waheed, A. (2022). *Statistical Analysis in Business and Economics*. Royal Book Company.
3. Cooper, D. R., and Schindler, P. S. (2008). *Business Research Methods*. 10<sup>th</sup> Edition. McGraw-Hill Companies, Inc.
4. Kumar, M., Talib, S. A., and Ramayah, T. (2013). *Business Research Methods*. Oxford University Press.
5. Saunders, M. N. K., Lewis, P., and Thornhill, A. (2009). *Research Methods for Business Students*. 5<sup>th</sup> Edition. Prentice-Hall
6. Bryman, A., & Bell, E. (2015). *Business Research Methods* (4th ed.). Oxford University Press.
7. Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (7th ed.). Wiley.
8. Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). SAGE Publications.

## **ECO 609.1 – Labor Economics**

### **Course Description**

This course offers a comprehensive introduction to labor economics, analyzing how workers, firms, and governments interact to shape outcomes in labor markets, particularly focusing on employment and earnings. The first semester emphasizes labor demand, labor demand elasticities, and labor market frictions. The supply side and wage differentials are also explored, providing students with theoretical and practical insights into wage determination, labor market structures, and the various forces that influence labor economics in different contexts, including the Pakistani labor market.

### **Course Objectives**

By the end of this course, students will be able to:

1. Understand the basic concepts and functioning of the labor market.
2. Analyze the demand for labor and factors that influence wage determination.
3. Evaluate labor demand elasticities and the implications of technological change.
4. Examine frictions in the labor market, including monopsonistic conditions, job search costs, and internal labor markets.
5. Explore labor supply decisions, including household labor supply, labor/leisure choices, and life cycle considerations.
6. Understand compensating wage differentials and the interaction between job matching, worker preferences, and employer considerations.

### **Course Contents**

#### **1. Introduction**

- Basic concepts in labor economics.
- Definitions, facts, and trends in the labor market.
- Labor force participation, unemployment, and earnings trends.
- The working of the labor market: demand and supply of labor.
- Wage determination, underpaid and overpaid labor.

- International differences in unemployment.
- Case study: The Black Death and its impact on labor wages.
- Forced labor and its implications.

## **2. The Demand for Labor**

- Profit maximization and labor demand.
- Marginal income and marginal expense of additional input.
- Short-run and long-run demand for labor in competitive markets.
- Labor demand in competitive markets with variable inputs.
- Labor demand in monopoly: Wages and profit maximization.
- Policy applications in Pakistan's labor market.

## **3. Labor Demand Elasticities**

- Own-wage elasticity of demand.
- Hicks–Marshall laws of derived demand.
- Empirical estimates of labor demand elasticities.
- Cross-wage elasticity of demand and labor demand elasticity with technological change.

## **4. Frictions in the Labor Market**

- Frictions on the employee side: Job search costs, monopsonistic conditions.
- Profit maximization in monopsonistic labor markets.
- The law of one price and market outcomes.
- Frictions on the employer side: Quasi-fixed costs, employment/hours trade-off, training investments.
- Use of credentials, internal labor markets, and hiring investments.

## **5. Supply of Labor to the Economy**

- Trends in labor force participation and hours of work.
- Labor force participation rates and theory of the decision to work.
- Analysis of the labor/leisure choice.

- Income and substitution effects: Empirical findings.

## **6. Labor Supply**

- Labor supply models and household production.

- Joint labor supply decisions within households.

- Specialization of function, joint decision-making, and interdependent productivity at home.

- Labor supply during recessions, life cycle labor supply, and retirement age decisions.

## **7. Compensating Wage Differentials and Labor Markets**

- Job matching, worker preferences, and information asymmetry.

- Empirical tests for compensating wage differentials.

- Hedonic wage theory: Risk of injury, employee benefits, and employer considerations.

- Employee preferences and the matching of employers and employees.

## **Recommended Books**

1. Kaufman, B., & Hotchkiss, J. L. (2005). *The economics of labor markets* (7th ed.). South-Western College Publication.

2. McConnell, C., Brue, S., & Macpherson, D. (2013). *Contemporary labor economics* (10th ed.). McGraw-Hill/Irwin.

3. Laing, D. (2011). *Labor economics: Introduction to classic and the new labor economics*. W. W. Norton & Company.

4. Borjas, G. J. (2014). *The economics of labor*. Routledge.

5. Abraham, K. G., Spletzer, J. R., & Harper, M. (2010). *Labor in the new economy*. University of Chicago Press.

6. Barr, N. (2012). *Economics of the welfare state* (5th ed.). Oxford University Press.

7. Ehrenberg, R. G., & Smith, R. S. (2014). *Modern labor economics: Theory and public policy* (12th ed.). Prentice Hall.

## **ECO 610.1: Labor Economics**

### **Course Description**

This course explores the multifaceted dynamics of labor economics, focusing on human capital investment, worker mobility, and the impact of gender, race, and ethnicity in the labor market. Students will analyze real-world scenarios to understand the complexities of pay and productivity, union effects, unemployment, inequality, and the influence of international trade on labor markets.

### **Course Objectives**

By the end of this course, students will be able to:

1. Analyze the impact of human capital investment on labor market outcomes.
2. Evaluate the determinants and implications of worker mobility.
3. Assess the relationship between pay structures and productivity.
4. Examine the effects of gender, race, and ethnicity on earnings and labor market participation.
5. Understand the role of unions and their impact on labor markets.
6. Analyze the causes and effects of unemployment and income inequality.
7. Investigate the effects of international trade and production sharing on labor markets.

### **Course Contents**

#### **1. Investments in Human Capital**

- Human capital investments
- Concept of present value
- Modeling the human capital investment decision
- Costs and benefits of education
- On-the-job training and age/earnings profiles
- Gender disparities in human capital acquisition

#### **2. Worker Mobility**

- Determinants of worker mobility
- Geographic mobility and migratory flows
- Earnings distribution and international migration
- Policy implications of immigration restrictions

#### **3. Pay and Productivity**

- Motivating workers and employment contracts
- Information asymmetries in compensation
- Effects of pay on productivity and efficiency wages

#### **4. Gender, Race, and Ethnicity in the Labor Market**

- Sources of earnings differences
- Theories of market discrimination
- Impact of personal prejudice and statistical discrimination

## **5. Unions and the Labor Market**

- Structure and membership of unions
- Legal framework of unions in Pakistan
- Collective bargaining and its effects on labor demand

## **6. Unemployment**

- Stock-flow model of the labor market
- Types and sources of unemployment
- Downward wage rigidity and demographic impacts

## **7. Inequality in Earnings**

- Measuring earnings inequality
- Causes of growing income disparity
- Comparison of earnings inequality across developed nations

## **8. The Labor Market Effects on International Trade and Production Sharing**

- Comparative advantage and trade incentives
- Effects of trade on labor demand and wage convergence

### **Recommended Books**

1. Kaufman, B., & Hotchkiss, J. L. (2005). *The Economics of Labor Markets* (7th ed.). South-Western College Publication.
2. McConnell, C. R., Brue, S., & Macpherson, D. (2013). *Contemporary Labor Economics* (10th ed.). McGraw-Hill/Irwin.
3. Laing, D. (2011). *Labor Economics: Introduction to Classic and the New Labor Economics*. W. W. Norton & Company.
4. Borjas, G. J. (2014). *The Economics of Labor*. Routledge.
5. Abraham, K. G., Spletzer, J. R., & Harper, M. (2010). *Labor in the New Economy*. University of Chicago Press.

## **ECO 609.2: Human Resource Management**

### **Course Description**

This course provides a comprehensive overview of human resource management (HRM) principles and practices, addressing the framework of HRM, environmental changes, international challenges, and key functions such as job analysis, recruitment, selection, and training. Students will gain insights into the complexities of managing human resources in diverse contexts.

### **Course Objectives**

By the end of this course, students will be able to:

1. Understand the foundational framework of human resource management.
2. Analyze the impact of environmental changes on HR practices.
3. Assess international HR challenges and strategies.
4. Evaluate the legal aspects of equal employment and affirmative action.
5. Conduct job analysis and design effective job structures.
6. Develop human resource planning and recruitment strategies.
7. Implement effective selection processes and training programs.

### **Course Contents**

#### **1. The Human Resource Framework**

- Central challenges in HRM
- Organizational structure of HR departments

#### **2. Environmental Changes**

- Historical foundations and external challenges
- Organizational and professional challenges

#### **3. International Challenges**

- Frameworks for international HRM
- International preparation and selection processes

#### **4. Equal Employment Challenges**

- Overview of equal employment laws
- Context of equal employment laws in Pakistan
- Affirmative action issues

#### **5. Job Analysis and Design**

- Overview of job analysis information and its applications
- Techniques of job redesign

#### **6. Human Resource Planning**

- Demand and supply of human resources



## **7. Recruitment**

- Constraints and challenges in recruitment
- Internal and external recruitment channels

## **8. Selection**

- Inputs and challenges in the selection process
- Overview of selection criteria and processes

## **9. Orientation, Placement, and Separation**

- Obstacles to productivity in placement
- Orientation programs and issues in placement

## **10. Training and Development**

- Steps to effective training and development
- Evaluation methods for training programs

## **Recommended Books**

- Werther, W. B., Jr., & Davis, K. (2006). Human Resources and Personnel Management (5th ed.). McGraw-Hill.
- Cappelli, P., Charan, R., Buckingham, M., & Hoftman, R. (2019). HBR's 10 Must Reads on Reinventing HR.

## **ECO 610.2: Human Resource Management**

### **Course Description**

This course delves into advanced topics in human resource management, focusing on key areas such as career planning, performance appraisal, compensation management, and employee relations. Students will explore contemporary challenges in HR, the importance of performance metrics, and the impact of incentives on workforce motivation and satisfaction.

### **Course Objectives**

- Understand the role of career planning in employee development.
- Analyze the effectiveness of performance appraisal systems.
- Evaluate compensation management strategies and their implications.
- Assess the challenges of employee relations and union-management dynamics.
- Examine the future prospects of human resource management through audits and research.

### **Course Contents**

#### **1. Career Planning**

- Career planning and employee needs
- Role of human resource departments in career planning
- Strategies for career development

#### **2. Performance Appraisal**

- Elements of performance appraisal systems
- Challenges in performance appraisal
- Traditional and contemporary appraisal methods
- Implications of the appraisal process

#### **3. Wages and Salaries**

- Objectives of compensation management
- Job analysis and evaluations
- Wage and salary surveys
- Challenges affecting compensation strategies

#### **4. Incentives and Gainsharing**

- Issues related to incentives and gainsharing
- Design and implementation of incentive systems

#### **5. Benefits and Services**

- Role of indirect compensation
- Types of insurance and employee security benefits
- Administration of benefits and services

## **6. Security, Safety, and Health**

- Financial and physical security measures in the workplace

## **7. Employee Relations Challenges**

- Role of HR in fostering quality of work life (QWL)
- Emerging challenges in employee relations

## **8. Union Management Relations**

- Impact of international competition
- Labor-management systems and cooperation
- Challenges faced in human resource management

## **9. Assessment and Prospects**

- Scope and tools of human resource audits
- Future prospects for human resource management

### **Recommended Books**

- Werther, W. B., & Davis, K. (2005). Human Resources and Personnel Management (5th ed.). McGraw-Hill.
- Cappelli, P., Charan, R., Buckingham, M., & Hoftman, R. (2019). HBR's 10 Must Reads on Reinventing HR .

## **ECO 609.3: Applied Econometrics**

### **Course Description**

This course emphasizes the applied aspects of econometrics, focusing on the verification and analysis of economic theories. It covers non-stationary time series variables and multivariate models, with hands-on data collection and model formulation.

### **Course Objectives**

- To apply econometric techniques to analyze economic theories using real-world data.
- To understand the characteristics of non-stationary time series variables.
- To develop skills in multivariate modeling and analysis.

### **Course Contents**

#### **1. Introduction to Non-Stationary Univariate Time Series Variables**

- Random walk and drift
- Unit root testing
- ARIMA models and forecasting

#### **2. ARCH and GARCH Models**

- Introduction to ARCH and GARCH models
- Estimation and applications to economic time series

#### **3. Multivariate Time Series Models**

- Vector Auto Regression Models
- Granger-Causality tests
- Co-integration and Error Correction Models

### **Recommended Books**

- Asteriou, D., & Hall, S. G. (2011). Applied econometrics (2nd ed.). Palgrave Macmillan.
- Wooldridge, J. M. (2012). Introductory econometrics: A modern approach (5th ed.). Cengage Learning.
- Enders, W. (2013). Applied econometrics time series . Wiley.
- Waheed, A. (2023). Econometrics: Application with EViews. Royal Book Company.

## **ECO 610.3: Applied Econometrics**

### **Course Description**

This course continues the exploration of applied econometrics, focusing on discrete and limited dependent variable models. It aims to equip students with the skills to apply these models to various economic problems using real data sets.

### **Course Objectives**

- To understand and apply limited dependent variable models to economic data.
- To analyze panel data models effectively.
- To evaluate empirical studies using econometric models.

### **Course Contents**

#### **1. Limited Dependent Variable Models**

Introduction to Limited Dependent Variable Models, Linear Probability Models, Logit and Probit Models, Application of Logit and Probit Models, Truncated and censored regression models, Applications: Analyze the factors affecting the probability of failure in MA/MSc, Discrimination models in granting loans, corporate choice of debt, labor market imperfections, and determinants of female labor force participation rate.

#### **2. Panel Data Models**

Introduction to panel data models, fixed effect and random effect models, Approaches to Estimation of fixed effect models, Random effect model estimation, Hausman test of fixed versus Random effects, Application of Panel Data models, Applications: Banking market competition, Financial Success and firm's performance, and measuring productivity efficiency in electricity distribution.

### **Recommended Books**

- Asteriou, D., & Hall, S. G. (2011). Applied econometrics (2nd ed.). Palgrave Macmillan.
- Wooldridge, J. M. (2012). Introductory econometrics: A modern approach (5th ed.). Cengage Learning.
- Gujarati, D. (2011). Econometrics by example . Palgrave Macmillan.
- Waheed, A. (2023). Econometrics: Application with EViews. Royal Book Company.

## **ECO 609.4: Computer Applications in Economics**

### **Course Description**

The first semester introduces students to the fundamental concepts of computer applications in economics, focusing on how various software tools and programs can be used for data analysis, modeling, and decision-making. This course will provide hands-on experience with spreadsheets, databases, and statistical software to perform economic analysis and manage large datasets. The goal is to enhance students' quantitative skills and familiarize them with the essential tools used in modern economic research.

### **Course Objectives**

By the end of Semester I, students will:

1. Understand the role of computer applications in economic research and analysis.
2. Develop proficiency in using spreadsheets (e.g., Excel) for economic data management and analysis.
3. Learn basic statistical and econometric analysis using software such as R, EViews, SPSS and STATA.
4. Explore how databases can be used to manage economic data effectively.
5. Gain hands-on experience with software tools for modeling and economic forecasting.

### **Course Contents**

#### **1. Introduction to Computer Applications in Economics**

Overview of the role of technology in economics

Basic concepts of computer based data analysis

Importance of software in modern economic research

#### **2. Spreadsheet Applications for Economic Analysis**

Introduction to Excel or Google Sheets

Data entry, management, and manipulation  
Formulas and functions for economic calculations  
Descriptive statistics and basic graphing techniques

### **3. Data Management Using Databases**

Introduction to databases and data management  
Creating and organizing economic datasets  
Use of Access or SQL for managing economic data  
Importing and exporting data from databases

### **4. Introduction to Statistical Software (R, STATA, or Python)**

Overview of statistical software for economics  
Importing data and basic data manipulation  
Descriptive statistics and visualization techniques  
Introduction to regression analysis and hypothesis testing

### **5. Economic Modeling with Spreadsheets**

Introduction to economic models in spreadsheets  
Building simple economic models (supply and demand, cost functions)  
Scenario analysis and sensitivity analysis using spreadsheets

### **Recommended Books**

1. Koenker, R. (2010). *Econometrics and statistical computing*. MIT Press.
2. Heiss, F. (2016). *Using R for introductory econometrics*. John Wiley & Sons.
3. Cameron, A. C., & Trivedi, P. K. (2009). *Microeconometrics using Stata (Revised ed.)*. Stata Press.
4. Wooldridge, J. M. (2016). *Introductory econometrics: A modern approach (6th ed.)*. Cengage Learning.
5. Field, A., Miles, J., & Field, Z. (2012). *Discovering statistics using R*. SAGE Publications.

## **ECO-610.4: Computer Applications in Economics**

### **Course Description**

Building on the foundational skills learned in the first semester, the second semester focuses on advanced techniques for economic data analysis and forecasting. This semester will cover topics such as time series analysis, econometric modeling, and data visualization techniques. Students will apply advanced features of statistical software for economic forecasting and policy analysis. By the end of the course, students will be equipped to use computer applications to solve complex economic problems.

### **Course Objectives**

By the end of Semester II, students will:

1. Gain proficiency in advanced data analysis techniques using statistical software.
2. Learn how to apply econometric models for real world economic problems.
3. Perform time series analysis and forecasting for economic decision-making.
4. Understand how to visualize economic data and communicate results effectively.
5. Apply computer applications to policy analysis and economic research.

### **Course Contents**

#### **1. Advanced Data Analysis with Statistical Software**

Advanced data manipulation techniques in R, EViews, SPSS, STATA, or Python

Regression analysis with multiple variables

Hypothesis testing and confidence intervals

Diagnostic tests for econometric models

#### **2. Time Series Analysis and Forecasting**

Introduction to time series data and its characteristics



Stationarity, trend, and seasonality in time series data

ARIMA modeling and forecasting techniques

Practical applications of time series forecasting in economics

### **3. Econometric Modeling for Economic Analysis**

Introduction to econometric models and their applications

Building and interpreting linear regression models

Logistic regression and probit models for qualitative data

Policy analysis using econometric models

### **4. Data Visualization and Reporting**

Best practices for visualizing economic data

Creating advanced graphs and charts in Excel, R, or Python

Dashboard creation for economic reporting

Communicating results to stakeholders

### **5. Practical Applications in Policy Analysis**

Using computer applications for economic policy evaluation

Simulating policy scenarios and economic outcomes

Case studies on the use of data analysis in economic policy

### **Recommended Books**

1. Koenker, R. (2010). *Econometrics and statistical computing*. MIT Press.
2. Heiss, F. (2016). *Using R for introductory econometrics*. John Wiley & Sons.
3. Cameron, A. C., & Trivedi, P. K. (2009). *Microeconometrics using Stata (Revised ed.)*. Stata Press.
4. Wooldridge, J. M. (2016). *Introductory econometrics: A modern approach (6th ed.)*. Cengage Learning.
5. Field, A., Miles, J., & Field, Z. (2012). *Discovering statistics using R*. SAGE Publications.

## **ECO 609.5: Mathematical Economics**

### **Course Description:**

This course introduces students to the application of mathematical techniques in economic analysis. It aims to equip students with essential mathematical tools necessary for understanding key economic concepts and models. A basic understanding of calculus is beneficial for this course.

### **Course Objectives:**

- Understand the foundational principles of mathematical economics.
- Apply mathematical techniques to static and dynamic economic models.
- Utilize matrix algebra and optimization methods in economic analysis.
- Analyze economic problems using derivatives and comparative statics.

### **Course Contents:**

#### **1. Introduction**

- Overview of mathematical economics, distinction between mathematical economics and econometrics, and components of mathematical models.

#### **2. Static or Equilibrium Analysis**

- Equilibrium concepts, partial and general equilibrium analysis, applications in market models and the IS-LM model.

#### **3. Matrix Algebra**

- Types of matrices, determinants, matrix solutions, economic applications of matrix algebra in market and national income models.

#### **4. Comparative Statics & Concept of Derivatives**

- Basics of derivatives, rules of differentiation, economic applications including the Cobb-Douglas production function.

#### **5. Comparative Static Analysis of General Function Model**

- Understanding differentials, total derivatives, and their economic implications in various models.

#### **6. Optimization Problems**

- Techniques for finding optimum values, economic applications in profit and cost maximization.

#### **7. Exponential and Logarithmic Functions**

- Derivatives of exponential functions, applications in economic growth models.

#### **8. The Case of More than One Choice Variable**

- Optimization conditions in functions with multiple variables and economic implications.

**Recommended Books:**

- Chiang, A. C., & Wainwright, K. (2005). Fundamental methods of mathematical economics (4th ed.). McGraw Hill.
- Weber, E. J. (1982). Mathematical analysis, business and economic applications (4th ed.). Harper and Row Publishers.
- Dowling, E. T. (2011). Introduction to mathematical economics . Schaum's Outline Series (3rd ed.). McGraw-Hill.
- Glass, C. (1980). An introduction to mathematical methods in economics . McGraw Hill.
- Alvery, G., et al. (1995). Essentials of mathematics with business applications (5th ed.). McGraw Hill.
- Simon, C. P., & Blume, L. (1994). Mathematics for economists . W.W. Norton.

## ECO 610.5: Mathematical Economics

### Course Description:

This advanced course builds on mathematical techniques introduced in ECO 641, focusing on deeper analysis of economic models and complex problem-solving.

### Course Objectives:

- Enhance mathematical skills in economic analysis and modeling.
- Apply advanced techniques such as Lagrange multipliers and differential equations to economic problems.
- Understand the implications of economic dynamics through integral calculus.

### Course Contents:

#### 1. Optimization with Equality Constraints

- Lagrange multiplier method, consumer demand analysis, and elasticity concepts.

#### 2. Economic Dynamics and Integral Calculus

- Indefinite and definite integrals, applications in economic functions and surplus calculations.

#### 3. Differential Equations

- Classification, solutions of first-order linear differential equations, and applications in economic models.

#### 4. Difference Equations

- Understanding first-order linear difference equations and their economic implications.

#### 5. Linear and Non-Linear Programming

- Overview of programming techniques, duality, and economic applications of linear programming.

### Recommended Books:

- Chiang, A. C., & Wainwright, K. (2005). *Fundamental methods of mathematical economics* (4th ed.). McGraw Hill.
- Weber, E. J. (1982). *Mathematical analysis, business and economic applications* (4th ed.). Harper and Row Publishers.
- Dowling, E. T. (2011). *Introduction to mathematical economics*. Schaum's Outline Series (3rd ed.). McGraw-Hill.
- Sydsæter, K., et al. (2008). *Further mathematics for economic analysis* (2nd ed.). Prentice Hall.
- Gandolfo, G. (1985). *Economic dynamics: Methods and models*. North Holland.
- Shone, R. (1997). *Economic dynamics: Phase diagrams and their economic applications*. Cambridge University Press.

## ECO 609.6: Operations Research

### Course Description:

This course covers the fundamentals of operations research, focusing on analytical methods for effective decision-making in complex scenarios.

### Course Objectives:

- Understand the principles of operations research and its applications.
- Formulate and solve linear programming models using various methods.
- Analyze decision-making processes through various algorithms and techniques.

### Course Contents:

#### 1. Introduction to Operations Research

- Origins, nature, and impact of operations research.

#### 2. Overview of Operations Research Modeling Approach

- Problem definition, data gathering, model formulation, and implementation.

#### 3. Linear Programming Basics

- Understanding and formulating linear programming models.

#### 4. Solving Linear Programming Problems: The Simplex Method

- Deep dive into the simplex method and its applications.

#### 5. Duality Theory and Sensitivity Analysis

- Economic interpretation of duality and sensitivity analysis applications.

#### 6. Transportation and Assignment Problems

- Methods for solving transportation and assignment issues.

#### 7. Project Management with PERT/CPM

- Scheduling projects using PERT/CPM and analyzing time-cost trade-offs.

#### 8. Dynamic Programming

- Characteristics and applications of dynamic programming.

#### 9. Integer Programming

- Understanding integer programming techniques and their applications.

#### 10. Nonlinear Programming

- Overview of nonlinear programming problems and their solutions.

**Recommended Books:**

- Rader, D. J. (2010). Deterministic operations research: Models and methods in linear optimization . Wiley.
- Hillier, F. S. (2010). Introduction to operations research (9th ed.). McGraw-Hill.
- Eiselt, H. A., & Sandblom, C.-L. (2012). Operations research: A model-based approach (2nd ed.). Springer.
- Kasana, H. S., & Kumar, K. D. (2010). Introductory operations research: Theory and applications . Springer.
- Taha, H. A. (2010). Operations research: An introduction (9th ed.). Prentice Hall.

## ECO 610.6: Operations Research

### Course Description:

Building on concepts from Operations Research I, this course delves into advanced topics such as game theory and simulation, equipping students with comprehensive problem-solving skills.

### Course Objectives:

- Apply advanced operations research techniques to solve complex decision-making problems.
- Analyze real-world situations using models from game theory, queuing theory, and inventory theory.
- Implement forecasting and simulation methods for effective decision-making.

### Course Contents:

#### 1. Game Theory

- Formulating and solving zero-sum games and mixed strategies.

#### 2. Decision Analysis

- Techniques for decision-making, including decision trees and utility theory.

#### 3. Markov Chains

- Understanding stochastic processes and their applications.

#### 4. Queueing Theory

- Analyzing real-world queueing systems and their economic implications.

#### 5. Inventory Theory

- Exploring components and models of inventory systems.

#### 6. Forecasting

- Applying various forecasting methods and analyzing their effectiveness.

#### 7. Markov Decision Processes

- Optimal policies and their applications in decision-making.

#### 8. Simulation

- Techniques for conducting simulations and analyzing results.

### Recommended Books:

- Rader, D. J. (2010). *Deterministic operations research: Models and methods in linear optimization*. Wiley.
- Hillier, F. S. (2010). *Introduction to operations research* (9th ed.). McGraw-Hill.
- Eiselt, H. A., & Sandblom, C.-L. (2012). *Operations research: A model-based approach* (2nd ed.). Springer.

- Kasana, H. S., & Kumar, K. D. (2010). Introductory operations research: Theory and applications . Springer.
- Taha, H. A. (2010). Operations research: An introduction (9th ed.). Prentice Hall.



## **ECO 609.7: National Income Accounting**

### **Course Description:**

This course provides a comprehensive overview of national income accounting, focusing on the concepts, methods, and frameworks used to measure and analyze national income. Students will explore various components of national income, the flow of income in an economy, and the implications of national income accounting on macroeconomic analysis.

### **Course Objectives:**

- Understand the fundamental concepts of national income and its components.
- Analyze the methods used for calculating national income.
- Evaluate the accounting frameworks and national income aggregates.
- Apply input-output techniques in national income analysis.
- Discuss the flow of fund accounting and its relevance.

### **Course Contents:**

#### **1. Introduction**

- Macroeconomics versus Microeconomics
- Static and Dynamic equilibrium concepts
- Microeconomic equilibrium: Analysis and techniques

#### **2. National Income Concepts**

- Real and money income
- Circular flow of income and its components
- Methods of calculating national income
- Gross and net product
- Conceptual problems in national income estimation

#### **3. Accounting Framework and National Income Aggregates**

- Income and production statement for a firm
- National income aggregates: GNP and GNI
- NNP at market price
- Definitions and uses for comparative analysis
- Criticism of national income accounting

#### **4. Input-Output Techniques**

- Introduction to input-output techniques
- Analytical consideration and form of input-output accounting table

#### **5. Flow of Fund Accounting**

- Flow of fund accounting
- Rationale of accounting procedure
- System of sector account and uses

**Text/Recommended Books:**

- Minhas, B. S. (2004). National Income Accounts and Data Systems . Oxford University Press.
- Shoup, C. S. (1947). Principles of National Income Analysis . Houghton Mifflin Company.
- King, D. (1984). Introduction to National Income Accounting . Hodder & Stoughton Educational.
- Mohey-Ud-Din, G. (2013). The Macroeconomic Analysis of Foreign Capital Inflows in Pakistan . GRIN Verlag.
- Hartwick, J. M. (2000). National Accounting and Capital . Edward Elgar Publishing Company.
- Kurihara, K. K. (2012). National Income and Economic Growth . Routledge.

## **ECO 610.7: National Income Accounting**

### **Course Description:**

Building upon the principles of national income accounting, this course delves into the analysis of macroeconomic variables and their relationship with national income. It focuses on the national accounting system in Pakistan, investment levels, and employment dynamics within the context of national income.

### **Course Objectives:**

- Analyze the use of national income analysis in understanding macroeconomic variables.
- Examine the national accounting system of Pakistan and identify challenges.
- Evaluate components of national aggregates and their implications for the economy.
- Discuss the factors affecting investment and consumption expenditures.
- Understand the relationship between employment levels and national income.

### **Course Contents:**

#### **1. National Income Analysis and Macroeconomic Variables**

- National income analysis for changes in population, production, productivity, prices, and employment

#### **2. National Accounting System of Pakistan**

- Methods of national income estimates in Pakistan
- Identification of problems and suggested solutions

#### **3. Components of National Aggregates**

- Simple income determination multiplier
- Factors affecting consumption expenditure
- Federal policy, government expenditure, taxation, and equilibrium level of income

#### **4. Level of Investment**

- Discounting and the present value of an asset
- Inducement to invest and factors affecting investment spending

#### **5. Level of Employment**

- Factors market and classical doctrine
- Keynesian economics and the level of employment
- Money, wage rates, and the level of full employment

### **Text/Recommended Books:**

- Minhas, B. S. (2004). National Income Accounts and Data Systems . Oxford University Press.
- Shoup, C. S. (1947). Principles of National Income Analysis . Houghton Mifflin Company.
- King, D. (1984). Introduction to National Income Accounting . Hodder & Stoughton Educational.

- Mohey-Ud-Din, G. (2013). The Macroeconomic Analysis of Foreign Capital Inflows in Pakistan . GRIN Verlag.
- Hartwick, J. M. (2000). National Accounting and Capital . Edward Elgar Publishing Company.
- Kurihara, K. K. (2012). National Income and Economic Growth . Routledge.

## **ECO 609.8: Regional Economics**

### **Course Description:**

This course introduces students to the principles and concepts of regional economics, examining the spatial aspects of economic activity and the impact of policy on regional development. It covers topics related to regional growth, convergence, divergence, and methods for analyzing regional economic dynamics.

### **Course Objectives:**

- Understand the key issues related to regional economies and economic activity.
- Analyze the impact of economic policy on regions.
- Explore concepts of convergence and divergence in regional growth.
- Apply methods in regional economics to analyze economic activities.

### **Course Contents:**

1. Advances in Regional Economics
2. The Location of Production Activities
3. Residential Mobility and Household Location
4. Public Facility Location
5. Spatial Equilibrium Analysis
6. Regional Economic Dynamics
7. Regional and Multiregional Economic Models
8. Regional, Interregional, and Multiregional Input-Output Analysis

### **Text/Recommended Books:**

- O'Sullivan, A. (2011). *Urban Economics* (8th ed.). McGraw-Hill/Irwin.
- Hoover, E. M. (1984). *An Introduction to Regional Economics* (3rd ed.). Knopf Publishing Company.
- Treyz, G. I. (1993). *Regional Economic Modeling: A Systematic Approach to Economic Forecasting and Policy Analysis*. Springer.
- Davis, H. C. (1990). *Regional Economic Impact Analysis and Project Evaluation*. University of British Columbia.
-

## **ECO 610.8: Regional Economics**

### **Course Description**

This course focuses on the analysis of spatial interaction and the development of dynamic models in regional economics. It explores the impact of policy issues, innovation, and research and development (R&D) on regional development.

### **Course Objectives**

- To understand spatial interaction and transportation in regional economics.
- To analyze dynamic models used in regional economic analysis.
- To evaluate policy issues affecting regional economic development.
- To examine the role of innovation and R&D in shaping regional economies.

### **Course Contents**

1. Spatial Interaction, Transportation, and Interregional Commodity Flow Models
2. Regional Econometric and Dynamic Models
3. Qualitative Statistical Models for Regional Economic Analysis
4. Multiple Objective Decision Analysis in Regional Economics
5. Regional Labor Market Analysis
6. Regional Energy and Environmental Analysis
7. Innovation and Changes in Regional Structure
8. Regional Policies in Developing Countries

### **Recommended Books**

1. O'Sullivan, A. (2011). *Urban Economics* (8th ed.). McGraw-Hill/Irwin.
2. Hoover, E. M. (1984). *An Introduction to Regional Economics* (3rd ed.). Knopf Publishing Company.
3. Treyz, G. I. (1993). *Regional Economic Modeling: A Systematic Approach to Economic Forecasting and Policy Analysis*. Springer.
4. Davis, H. C. (1990). *Regional Economic Impact Analysis and Project Evaluation*. University of British Columbia.
5. Richardson, H. W. (1979). *Regional Economics*. University of Illinois Press.

## **ECO 609.9: Urban Economics**

### **Course Description**

This course provides an introduction to urban economics, examining the economic forces that contribute to the existence of cities and regional clusters. It covers topics such as urbanization, housing, pollution, urban poverty, and crime.

### **Course Objectives**

- To analyze the economic forces driving the existence of cities and regional clusters.
- To study local selection factors affecting firms and workers.
- To explore the economics of urban problems, including crime, poverty, and housing shortages.

### **Course Contents**

1. Introduction
2. Emergence and Existence of Cities
3. Clustering of Firms and Workers
4. Expansion and Growth of Cities
5. Land Rent and Land Use Patterns
6. Urban Land Rent
7. Land Use Patterns
8. Neighborhood Choice

### **Recommended Books**

1. O'Sullivan, A. (2011). *Urban Economics* (8th ed.). McGraw-Hill/Irwin.
2. Harvey, D. (1989). *The Urban Experience*. Johns Hopkins University Press.
3. Brown, D. M. (1974). *Introduction to Urban Economics*. Academic Press.
4. Mills, E. S., & Hamilton, B. W. (1997). *Urban Economics* (5th ed.). Prentice Hall.
5. Brueckner, J. K. (2011). *Lectures on Urban Economics*. The MIT Press.
6. Fitzgerald, J. (2010). *Emerald Cities: Urban Sustainability and Economic Development*. Oxford University Press.

## **ECO 610.9: Urban Economics**

### **Course Description**

This course builds on the foundation of Urban Economics I, focusing on urban size, growth, and various policy topics. It examines the relationships between urban dynamics and local government roles.

### **Course Objectives**

- To analyze the factors influencing urban size and growth.
- To explore policy implications related to education, crime, transportation, and housing.
- To evaluate the role of local government in urban economics.

### **Course Contents**

1. Urban Size and Growth
2. Population Growth
3. Life Expectancy Rate
4. Mortality Rate
5. Policy Topics
6. Education and Crime
7. Transportation
8. Housing
9. Local Government
10. The Role of Local Government
11. Local Government Revenue

### **Recommended Books**

1. O'Sullivan, A. (2011). *Urban Economics* (8th ed.). McGraw-Hill/Irwin.
2. Harvey, D. (1989). *The Urban Experience*. Johns Hopkins University Press.
3. Brown, D. M. (1974). *Introduction to Urban Economics*. Academic Press.
4. Mills, E. S., & Hamilton, B. W. (1997). *Urban Economics* (5th ed.). Prentice Hall.
5. Brueckner, J. K. (2011). *Lectures on Urban Economics*. The MIT Press.
6. Fitzgerald, J. (2010). *Emerald Cities: Urban Sustainability and Economic Development*. Oxford University Press.
7. McDonald, J. F., & McMillen, D. P. (2010). *Urban Economics and Real Estate: Theory and Policy* (2nd ed.). Wiley.



## **ECO 609.10: Transport Economics**

### **Course Description**

This course provides a critical understanding of how economic principles can address current challenges in the transport sector, such as congestion, inadequate service, and high prices. Students will gain a systematic and comprehensive understanding of key concepts in transport economics, including analytical techniques used by transport economists.

### **Course Objectives**

- To develop an understanding of fundamental concepts in transport economics.
- To analyze the demand and supply dynamics within the transport sector.
- To evaluate pricing strategies and transport appraisal methods.
- To apply mathematical techniques relevant to transport economics.

### **Course Contents**

1. Introduction to Transport Economics
2. Mathematics for Transport Economists
3. Demand for Transport: Theory and Practice
4. Supply of Transport: Theory and Practice
5. Pricing of Transport: Theory and Practice
6. Transport Appraisal and Evaluation: Theory

### **Recommended Books**

1. Vasigh, B., Fleming, K., & Tacker, T. (2013). Introduction to Air Transport Economics: From Theory to Applications (2nd ed.). Ashgate Publishing Company.
2. Song, D.-W., & Panayides, P. M. (2012). Maritime Logistics: A Complete Guide to Effective Shipping and Port Management . Kogan Page.
3. Quinet, E., & Vickerman, R. W. (2005). Principles of Transport Economics . Edward Elgar Publishing.
4. Mallard, G., & Glaister, S. (2008). Transport Economics: Theory, Application and Policy . Palgrave Macmillan.
5. Cowie, J. (2009). The Economics of Transport: A Theoretical and Applied Perspective . Routledge.

## **ECO 610.10: Transport Economics**

### **Course Description**

This course builds on the concepts introduced in Transport Economics I, focusing on advanced topics such as cost-benefit analysis and the economic impact of transport investments. It explores the relationship between transport and economic activity in both developed and developing countries.

### **Course Objectives**

- To conduct cost-benefit analyses of transport investments in different economic contexts.
- To evaluate road user charging mechanisms and public transport pricing.
- To analyze the effects of transport on the location of economic activity.
- To assess the relationship between transport and overall economic activity.

### **Course Contents**

1. Cost-Benefit Analysis and Transport Investment in Developed Countries
2. Cost-Benefit Analysis and Transport Investment in Developing Countries
3. Road User Charging and Public Transport Pricing
4. Transport and the Location of Economic Activity
5. Transport and the Level of Economic Activity

### **Recommended Books**

1. Vasigh, B., Fleming, K., & Tacker, T. (2013). *Introduction to Air Transport Economics: From Theory to Applications* (2nd ed.). Ashgate Publishing Company.
2. Song, D.-W., & Panayides, P. M. (2012). *Maritime Logistics: A Complete Guide to Effective Shipping and Port Management*. Kogan Page.
3. Quinet, E., & Vickerman, R. W. (2005). *Principles of Transport Economics*. Edward Elgar Publishing.
4. Mallard, G., & Glaister, S. (2008). *Transport Economics: Theory, Application and Policy*. Palgrave Macmillan.
5. Cowie, J. (2009). *The Economics of Transport: A Theoretical and Applied Perspective*. Routledge.

## **ECO 609.11: Environmental Economics**

### **Course Description**

This course provides an introductory overview of the relationship between economic activity, policy, and the environment. It aims to develop an understanding of the role of economics in environmental management, exploring the nexus between the economy and the environment, as well as major concepts explaining economic behavior and environmental issues.

### **Course Objectives**

- Understand the economic principles related to environmental management.
- Analyze the interplay between economic activities and environmental challenges.
- Evaluate different economic models and their application to environmental issues.

### **Course Contents**

#### **1. Introduction**

- The economics of the environment
- Historical framework for environmental protection
- Distinction between natural resource economics and environmental economics
- First and second laws of thermodynamics
- Fundamental balance

#### **2. Analytical Tools: The Environment**

- Supply and demand issues
- Cost of controlling the environment
- Willingness to pay
- Economic efficiency and markets
- External costs and benefits

#### **3. The Economics of Environmental Quality**

- Pollution and its impact on human life
- Quality of life and environmental quality
- General methods of pollution control
- Long-run sustainability through pricing mechanisms

#### **4. Valuing the Environment and Cost-Benefit Analysis**

- Measuring environmental benefits
- Contingent valuation and travel cost methods
- Cost-benefit analysis
- The Coase theorem

### **Recommended Books**

- Larkin, A. (2013). Environmental debt: The hidden costs of a changing global economy . Palgrave Macmillan Trade.

- Field, B., & Field, M. K. (2012). Environmental economics: An introduction (6th ed.). McGraw-Hill/Irwin.
- Kolstad, C. D. (2010). Environmental economics (2nd ed.). Oxford University Press.
- Anderson, D. A. (2013). Environmental economics and natural resource management (4th ed.). Routledge.
- Goodstein, E. S. (2010). Economics and the environment (6th ed.). Wiley.
- Harris, J. M., & Roach, B. (2013). Environmental and natural resource economics: A contemporary approach (3rd ed.). M.E. Sharpe.

## **ECO 610.11: Environmental Economics**

### **Course Description**

Building on the concepts introduced in Environmental Economics I, this course explores the relationship between economic development and environmental conditions. It will specifically focus on the environmental issues facing Pakistan, comparing them with global standards and addressing both national and international environmental challenges.

### **Course Objectives**

- To analyze the impact of economic development on environmental conditions.
- To evaluate environmental challenges specific to Pakistan and their implications for development.
- To discuss national and international environmental issues and policies.
- To explore the role of developed countries in influencing global environmental conditions.

### **Course Contents**

#### **1. Economic Development and the Environment**

- General considerations
- Environmental degradation in developing economies
- The pollution-haven hypothesis
- Role of developed countries in changes to environmental conditions

#### **2. Environment and Pakistan**

- Emergence of environmental issues in Pakistan
- Industrial waste, urban waste, and agricultural issues related to pesticide use
- Salinity and waterlogging
- Urban environmental issues
- Public and private efforts to improve environmental quality
- Air pollution in Pakistan
- Public policies and awareness to control pollution
- Environmental policies and strategy in Pakistan

#### **3. The Global Environment**

- Ozone depletion
- The economics of global warming
- Kyoto Protocol and related issues
- International environmental agreements
- UN and environmental cooperation
- International trade and the environment
- Impacts of awareness policies

### **Recommended Books**

1. Larkin, A. (2013). Environmental Debt: The Hidden Costs of a Changing Global Economy . Palgrave Macmillan Trade.

2. Field, B., & Field, M. K. (2012). *Environmental Economics: An Introduction* (6th ed.). McGraw-Hill/Irwin.
3. Kolstad, C. D. (2010). *Environmental Economics* (2nd ed.). Oxford University Press.
4. Anderson, D. A. (2013). *Environmental Economics and Natural Resource Management* (4th ed.). Routledge.
5. Goodstein, E. S. (2010). *Economics and the Environment* (6th ed.). Wiley.

## **ECO 609.12: Agricultural Economics**

### **Course Description**

This course develops and applies the principles of economics to agricultural productivity, focusing on maximizing benefits within agricultural sub-sectors. It addresses key issues in the agricultural sector and explores the relationship between agriculture and economic development.

### **Course Objectives**

- Analyze agricultural productivity and its implications for economic development.
- Examine various economic theories related to the agricultural sector.
- Understand the impact of agricultural reforms on productivity.

### **Course Contents**

#### **1. Introduction and Importance of Agriculture**

- Agricultural revolution and importance
- Current state of agricultural development
- Issues in agriculture

#### **2. Structure and Characteristics of Agriculture in LDCs**

- Traditional agriculture and productivity
- Food problems and farm size

#### **3. Role of Agriculture in Economic Development**

- Framework for analysis of agriculture's contributions

#### **4. Theory of Rent and the Concept of 'Surplus'**

- Economic rent theory and agricultural productivity

### **Recommended Books**

- Barkley, A., & Barkley, P. W. (2013). Principles of agricultural economics . Routledge.
- Debertain, D. L. (2012). Agricultural production economics (2nd ed.). CreateSpace Independent Publishing Platform.
- Norton, G. W., Alwang, J., & Masters, W. A. (2010). Economics of agricultural development (2nd ed.). Routledge.
- Drummond, H. E., & Goodwin, J. W. (2010). Agricultural economics (3rd ed.). Prentice Hall.
- Hansen, H. O. (2013). Food economics: Industry and markets . Routledge.
- Vercammen, J. (2011). Agricultural marketing: Structural models for price analysis . Routledge.
- Wagner, J. E. (2011). Forestry economics: A managerial approach . Routledge.
- Nijs, L. (2014). The handbook of global agricultural markets: The business and finance of land, water, and soft commodities . Palgrave Macmillan.

## **ECO 610.12: Agricultural Economics**

### **Course Description**

This course continues the exploration of agricultural economics, focusing on advancements in modeling within the agricultural sector, resource efficiency, technological innovations, and challenges faced by agriculture in Pakistan and globally, including food shortages and population growth.

### **Course Objectives**

- Analyze dualistic development models and their relevance to agricultural economics.
- Evaluate the efficiency of resource utilization and technological changes in peasant agriculture.
- Assess supply responses within the agricultural sector and the implications for food supply and population dynamics.

### **Course Contents**

#### **1. Agriculture in Dualistic Development Models**

- Introduction to the Lewis model, Fei-Ranis model, Jorgenson model, Kelley, Williamson, and Cheetham model
- Critiques of dual economy models and agricultural adequacy
- Mellor's model

#### **2. Resource Use Efficiency and Technical Change in Peasant Agriculture**

- Efficiency of resource utilization
- Technological change in agriculture
- Factor-biased technological change and distributional consequences
- Agricultural employment and empirical evidence
- Agricultural resources and technical change in LDCs with a focus on Pakistan

#### **3. Supply Response**

- Introduction to the Cobweb model
- Price-supply response in backward agriculture
- Marketed surplus estimation methods
- Supply response in the agricultural labor market in Pakistan
- Green revolution in Pakistan: responses and current status

#### **4. Population and Food Supplies**

- The Classical model and Contra-Malthusian model
- Ecological disequilibrium and synthesis of population and food supply theories
- Malnutrition in developing countries, including Pakistan
- Agricultural development planning strategies



### **Recommended Books**

- Barkley, A., & Barkley, P. W. (2013). Principles of agricultural economics . Routledge.
- Debertin, D. L. (2012). Agricultural production economics (2nd ed.). CreateSpace Independent Publishing Platform.
- Norton, G. W., Alwang, J., & Masters, W. A. (2010). Economics of agricultural development (2nd ed.). Routledge.
- Drummond, H. E., & Goodwin, J. W. (2010). Agricultural economics (3rd ed.). Prentice Hall.
- Hansen, H. O. (2013). Food economics: Industry and markets . Routledge.

## **ECO 609.13: Industrial Economics**

### **Course Description**

This course examines the behavior of firms, industries, and markets through theoretical models. It emphasizes firm decision-making, market dynamics, and empirical statistical analyses to identify relationships among various economic variables. Students should have a foundational understanding of microeconomics and macroeconomics.

### **Course Objectives**

- Understand the theory of firms and their organizational structures.
- Analyze consumer surplus and welfare within a partial equilibrium framework.
- Explore the economic theory of bundling and its implications for market strategies.

### **Course Contents**

#### **1. Theory of a Firm**

- Introduction to industrial economics and firm organization
- Transaction cost theory and the emergence of firms
- Optimal firm size and hierarchical structures

#### **2. Consumer Surplus and Welfare**

- Estimation of public welfare using partial equilibrium analysis
- Quasi-linear utility functions and measures of welfare
- Consumer surplus and demand functions

#### **3. Economic Theory of Bundling**

- Bundling as a marketing tactic
- Price discrimination and consumer surplus implications

#### **4. Horizontal Mergers and Acquisitions**

- Examples and profitability of horizontal mergers
- Impacts on public welfare and market dynamics

#### **5. Vertical Mergers**

- Effects of vertical mergers on output and market foreclosure
- Profit implications for integrated firms

#### **6. Product Differentiation**

- Location models and market structure
- Effects of fixed costs and market size on product diversity

### **Recommended Books**

- Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. Free Press.
- Thompson, A. A., Jr., & Formby, J. P. (1998). *Economics of the firm* . Prentice Hall.
- Freeman, C., & Soete, L. (1997). *The economics of industrial innovation* (3rd ed.). The MIT Press.
- Laing, D. (2011). *Labor economics: Introduction to classic and the new labor economics* . W. W. Norton & Company.
- Tirole, J. (1988). *The theory of industrial organization* . The MIT Press.
- Cabral, L. M. B. (2000). *Introduction to industrial organization* . The MIT Press.

## **ECO 610.13: Industrial Economics**

### **Course Description**

ECO 664 focuses on advanced topics in Industrial Economics, including industrial agglomeration, innovation economics, imperfect competition, regulation theories, and analysis of specific industries. The course provides students with the analytical tools necessary to evaluate the challenges and implications of diverse conditions in industries.

### **Course Objectives**

Upon completion of this course, students will be able to:

- Analyze the phenomenon of industrial agglomeration and its economic implications.
- Evaluate the role of innovation in industrial development and market dynamics.
- Understand the complexities of imperfect competition and its impact on macroeconomic models.
- Discuss regulatory frameworks and their effects on market structures and performance.
- Apply theoretical concepts to real-world industry scenarios.

### **Course Contents**

#### **1. Industrial Agglomeration**

- Phenomenon and driving forces of industrial agglomeration.
- Mechanisms of increasing returns to scale and their implications.
- Effects of transportation costs and competition on industrial concentration.
- Stability and equilibria in distributed vs. agglomerated industries.

#### **2. Economics of Innovations**

- Models of innovation processes and their impact on market structures.
- Patent race dynamics and the economics of R&D investment.
- Incentives for innovation and the balance between socially optimal and market-driven investments.

#### **3. Imperfect Competition and Macroeconomics**

- Theories of business cycles and price rigidity in imperfectly competitive markets.
- The interaction between market structures and macroeconomic stability.
- Effects of externalities and corrective measures on market welfare.

#### **4. Theory of Regulation**

- Understanding monopoly costs and the conditions for natural monopolies.
- Regulatory mechanisms: sub-additivity, deadweight losses, and price discrimination.
- Models of regulation and the role of information asymmetry in regulatory design.

#### **5. Analysis of Particular Industries and Enterprises**

- Case studies: Airline deregulation and efficiency models.
- Examination of service industries: network externalities and market equilibrium challenges.

## **6. Economics of Show Business**

- Market dynamics in entertainment: talent and revenue structures.
- The role of quality in demand functions and its impact on market performance.

### **Recommended Books**

- Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. Free Press.
- Arthur, A., Jr., & Formby, J. P. (1998). *Economics of the Firm* . Prentice Hall.
- Freeman, C., & Soete, L. (1997). *The Economics of Industrial Innovation* (3rd ed.). The MIT Press.
- Laing, D. (2011). *Labor Economics: Introduction to Classic and the New Labor Economics* . W. W. Norton & Company.
- Tirole, J. (1988). *The Theory of Industrial Organization* . The MIT Press.

## **ECO 609.14: Development Economics**

### **Course Description**

This course provides a comprehensive overview of economic development from a global perspective, exploring the comparative economic development of nations, classic and contemporary theories of growth, and the challenges posed by poverty, inequality, and migration.

### **Course Objectives**

By the end of this course, students will be able to:

- Understand and explain key concepts and indicators of economic development.
- Compare and contrast the development experiences of various countries.
- Analyze classic and contemporary theories of economic growth and development.
- Evaluate policies aimed at addressing poverty and inequality.
- Discuss the implications of population growth and urbanization on economic development.

### **Course Contents**

#### **1. Introducing Economic Development: A Global Perspective**

- Key questions in development economics.
- Classification of countries by development levels.
- Amartya Sen's capability approach to development.
- The Sustainable Development Goals.

#### **2. Comparative Economic Development**

- Understanding the developing world and its characteristics.
- Health, education, and the Human Development Index.
- Long-run causes of development disparities.

#### **3. Classic Theories of Economic Growth and Development**

- Overview of classic development theories and their critiques.
- Structural-change models and the neoclassical counter-revolution.

#### **4. Contemporary Models of Development and Underdevelopment**

- Coordination failures and multiple equilibria in development.
- The 'big push' theory and Kremer's O-Ring theory.

#### **5. Poverty, Inequality, and Development**

- Measurement techniques for poverty and inequality.
- Economic characteristics of impoverished groups.

#### **6. Population Growth and Economic Development: Causes, Consequences, and Controversies**

- Demographic transitions and their economic implications.
- Policy approaches to high fertility rates.

## 7. Urbanization and Rural–Urban Migration: Theory and Policy

- Trends and challenges of urbanization.
- The economic theory of rural-urban migration.

### Recommended Books

- Ali, A. (2011). Pakistan's Development Challenges: Federalism, Security and Governance . CreateSpace Independent Publishing Platform.
- Ray, D. (1998). Development Economics . Princeton University Press.
- Perkins, D. H., Radelet, S., & Lindauer, D. L. (2006). Economics of Development (6th ed.). W. W. Norton & Company.
- Nafziger, E. W. (2012). Economic Development (5th ed.). Cambridge University Press.
- Meier, G. M., & Rauch, J. E. (2005). Leading Issues in Economic Development (8th ed.). Oxford University Press.
- Research articles and national & international reports related to development issues.
- Todaro, M. P., & Smith, S. C. (2010). *Economic development* (11th ed.). Addison Wesley Longman.
- Naqvi, S. N. H. (2010). *The evolution of development policy: A reinterpretation* (pp. 1-37). Pakistan Institute of Development Economics (PIDE).

## **ECO 610.14: Development Economics**

### **Course Description**

ECO 609.14 builds on the foundations established in Development Economics, focusing on contemporary economic challenges faced by developing countries. The course covers macroeconomic and financial issues, human capital development, and environmental sustainability, applying formal models to address real-world problems.

### **Course Objectives**

#### **Students will be able to:**

- Analyze contemporary economic issues affecting developing countries.
- Evaluate policies addressing education, health, and environmental challenges.
- Discuss the roles of markets, states, and civil society in development.
- Examine the effects of international trade and finance on developing economies.
- Assess the impact of fiscal policy on economic development.

### **Course Contents**

#### **1. Human Capital: Education and Health in Economic Development**

- Importance of education and health in economic development.
- Gender disparities and child labor issues.

#### **2. Agricultural Transformation and Rural Development**

- Agricultural growth and rural development strategies.
- The role of women in agrarian systems.

#### **3. The Environment and Development**

- The interplay between environmental issues and economic development.
- Policy options for sustainable development.

#### **4. Development Policymaking and the Roles of Market, State, and Civil Society**

- Balancing market and state roles in development.
- The evolution of development planning processes.

#### **5. International Trade Theory and Development Strategy**

- Key issues in international trade and its impact on development.
- Critiques of traditional trade strategies.

#### **6. Balance of Payments, Debt, Financial Crises, and Stabilization Policies**

- Understanding balance of payments and debt crises.
- Evaluating stabilization policies and their effectiveness.

#### **7. Foreign Finance, Investment, Aid, and Conflict: Controversies and Opportunities**

- Exploring the role of foreign direct investment and aid in development.



## **8. Finance and Fiscal Policy for Development**

- The financial system's role in economic development.
- Analyzing fiscal policies and state-owned enterprises.

### **Recommended Books**

- Ali, A. (2011). *Pakistan's Development Challenges: Federalism, Security and Governance* . CreateSpace Independent Publishing Platform.
- Ray, D. (1998). *Development Economics* . Princeton University Press.
- Perkins, D. H., Radelet, S., & Lindauer, D. L. (2006). *Economics of Development* (6th ed.). W. W. Norton & Company.
- Nafziger, E. W. (2012). *Economic Development* (5th ed.). Cambridge University Press.
- Meier, G. M., & Rauch, J. E. (2005). *Leading Issues in Economic Development* (8th ed.). Oxford University Press.
- Roland, G. (2013). *Development Economics* . Prentice Hall.
- Todaro, M. P., & Smith, S. C. (2010). *Economic development* (11th ed.). Addison Wesley Longman.
- Naqvi, S. N. H. (2010). *The evolution of development policy: A reinterpretation* (pp. 1-37). Pakistan Institute of Development Economics (PIDE).

## **ECO 609.15: Health Economics**

### **Course Description**

This course emphasizes the practical issues faced by decision-makers in allocating scarce resources to maximize health benefits. It focuses on the economic evaluation of health and the economics of health insurance, aiming to develop an understanding of issues related to health economics and providing students with a foundational grounding in the theory and practice of health economics.

### **Course Objectives**

- Develop an understanding of the core concepts and theories in health economics.
- Analyze the economic evaluation methods applicable to health-related issues.
- Assess the impact of health insurance on resource allocation and health outcomes.

### **Course Contents**

#### **1. Introduction**

- Health – A Priceless Commodity?
- The Micro- and Macroeconomic Views of Health
- Economics of Health vs. Economics of Health Care
- A System Analysis of the Economics of Health and Health Care

#### **2. Economic Valuation of Life and Health**

- Approaches to the Economic Evaluation of Health
- Cost-Utility Analysis
- Cost-Benefit Analysis
- Cost-Utility, Cost-Benefit, and Social Welfare Analysis

#### **3. Individuals as Producers of Their Health**

- The Concept of Health Production
- Health as Part of Human Capital
- The Production of Health as the Modification of a Stochastic Process

#### **4. Empirical Studies of the Production of Health**

- Studies Based on Aggregate Data
- Studies Based on Individual Data
- Demand for Health and Demand for Health Services

#### **5. Health Goods, Market Failure, and Justice**

- Market Failure in Markets for Health Goods
- Market Failure in Health Insurance Markets
- Justice as an Argument for Government Intervention in Rationing Health Care Services

#### **6. Optimal Health Insurance Contracts**

- Types of Health Insurance Contracts

- Optimal Insurance Protection in the Absence of Moral Hazard
- Optimal Insurance Coverage with Moral Hazard
- Consequences for the Design of Social Health Insurance

## **7. Risk Selection in Health Insurance Markets**

- Modeling Risk Selection
- Arguments in Favor of Risk Adjustment and Cost Reimbursement
- Designing Risk Adjustment Schemes
- Designing Cost Reimbursement Schemes

### **Recommended Books**

- McPake, B., & Normand, C. (2013). *Health Economics: An International Perspective* (3rd ed.). Routledge.
- Phelps, C. E. (2012). *Health Economics* (5th ed.). Prentice Hall.
- Sloan, F. A., & Hsieh, C.-R. (2012). *Health Economics*. The MIT Press.
- Henderson, J. W. (2011). *Health Economics and Policy* (5th ed.). Cengage Learning.
- Olsen, J. A. (2009). *Principles in Health Economics and Policy* (2nd ed.). Oxford University Press.
- Bhattacharya, J., & Hyde, T. (2013). *Health Economics*. Palgrave Macmillan.
- Hicks, L. (2012). *Economics of Health and Medical Care* (6th ed.). Jones & Bartlett Learning.
- Guinness, L., & Wiseman, V. (2011). *Introduction to Health Economics* (2nd ed.). Open University Press.

## **ECO 610.15: Health Economics**

### **Course Description**

This course builds upon the foundations established in Health Economics I, focusing on the dynamics of health service delivery, the role of physicians, hospital efficiency, and the pharmaceutical market. It also addresses the political economy of health care and future challenges facing health care systems.

### **Course Objectives**

- Analyze the role of physicians and the implications of supplier-induced demand.
- Evaluate hospital efficiency and the impact of payment systems on health care delivery.
- Discuss the challenges of pharmaceutical innovation and the political economy of health care.

### **Course Contents**

#### **1. Physicians as Suppliers of Medical Services**

- The Relationship Between Physician Density and Utilization of Medical Services
- Supplier-Induced Demand for Ambulatory Medical Services
- Utility Maximization of the Physician and Supplier-Induced Demand
- Empirical Examination of the Supplier-Induced Demand Hypothesis

#### **2. Hospital Services and Efficiency**

- The Hospital as a Productive Unit
- Comparing Hospital Efficiency

#### **3. Paying Providers**

- Paying Providers to Achieve Cost Control
- Concerns Beyond Cost Control
- Implications for the Design of Payment Systems

#### **4. Forms of Delivery of Medical Care**

- The Physician as the Patient's Agent
- Complementary Principal-Agent Relationships in Health Care
- The Managed Care Organization as an Alternative Form of Provision of Care

#### **5. The Market for Pharmaceuticals**

- The Development of a New Drug
- Pharmaceutical Innovation as an Investment
- The Role of Patent Protection
- Price Regulation and Competition in Pharmaceutical Markets

#### **6. The Political Economy of Health Care**

- Collectively Financed Health Care in a Democracy
- The Role of Professional Associations in Health Care

## **7. Future Challenges to Health Care Systems**

- The Technological Challenge
- The Demographic Challenge
- International Challenges

### **Recommended Books**

- McPake, B., & Normand, C. (2013). *Health Economics: An International Perspective* (3rd ed.). Routledge.
- Phelps, C. E. (2012). *Health Economics* (5th ed.). Prentice Hall.
- Sloan, F. A., & Hsieh, C.-R. (2012). *Health Economics*. The MIT Press.
- Henderson, J. W. (2011). *Health Economics and Policy* (5th ed.). Cengage Learning.
- Olsen, J. A. (2009). *Principles in Health Economics and Policy* (2nd ed.). Oxford University Press.
- Bhattacharya, J., & Hyde, T. (2013). *Health Economics*. Palgrave Macmillan.
- Hicks, L. (2012). *Economics of Health and Medical Care* (6th ed.). Jones & Bartlett Learning.

## **ECO 609.16: Project Management**

### **Course Description**

This course introduces students to the theoretical frameworks and practical methodologies for the economic evaluation of projects. The focus will be on various evaluation techniques, including cost-benefit analysis, cost-effectiveness analysis, and cost-utility analysis, with particular emphasis on individual investment and public expenditure projects.

### **Course Objectives**

By the end of this course, students will be able to:

1. Understand the fundamental principles of project evaluation and their relevance to economic development.
2. Apply various methods of economic evaluation to assess the viability and impact of projects.
3. Distinguish between financial and economic analysis in the context of project evaluation.
4. Evaluate and quantify project benefits and costs using market prices, shadow prices, and other economic tools.

### **Course Contents**

#### **A. Introduction**

- Definition of a project.
- Interrelationship between projects and development plans.
- Project cycles and project analysis.
- The basis of financial and economic analysis.
- Project cost-benefit analysis.
- Distinction between financial and economic analysis.
- Criteria for project investment decisions.

#### **B. Identification and Quantification of Project Benefits and Costs**

- Relationship of benefits and costs with project objectives.
- The concept of incremental net benefits or cash flow.
- Use of “with” and “without” project approaches.
- Categories of costs and benefits, including intangible costs and benefits.
- Treatment of special items affecting costs and benefits, such as taxes, subsidies, credit transactions, interest during project construction, depreciation, sunk costs, contingency allowances, working capital, replacement costs, and residual/salvage value.

#### **C. Valuing Project Benefits and Costs**

- Market prices as indicators of value.
- Use of market prices to value benefits and costs in financial analysis.
- Handling seasonal variation in prices, changes in relative prices, and inflation.
- Use of shadow prices in economic analysis.
- Accounting for premium on foreign exchange through shadow exchange rates and conversion factor approaches.

- Removing market price distortions in traded and non-traded goods.

### **Recommended Books**

1. Mertens, D. M., & Wilson, A. T. (2012). Program Evaluation Theory and Practice: A Comprehensive Guide . The Guilford Press.
2. McDavid, J. C., Huse, I., & Hawthorn, L. R. L. (2012). Program Evaluation and Performance Measurement: An Introduction to Practice (2nd ed.). SAGE Publications.
3. Owen, J. M., & Alkin, M. C. (2006). Program Evaluation: Forms and Approaches (3rd ed.). The Guilford Press.
4. Heagney, J. (2011). Fundamentals of Project Management (4th ed.). AMACOM Publishing.
5. Samset, K. (2003). Project Evaluation: Making Investments Succeed . Akademika Publishing.

## **ECO 610.16: Project Management**

### **Course Description**

This advanced course builds on the foundations laid in Project Evaluation I, diving deeper into the measures of project worth and their applications. Students will explore the comparative analysis of benefits and costs, apply discounted measures of project worth, and perform cost-effectiveness analysis in various project scenarios.

### **Course Objectives**

By the end of this course, students will be able to:

1. Compare and contrast various measures of project worth, including both discounted and undiscounted methods.
2. Apply sensitivity analysis and other tools to choose between mutually exclusive projects.
3. Understand and implement cost-effectiveness analysis in different project contexts.
4. Evaluate the economic and financial viability of projects using advanced techniques.

### **Course Contents**

#### **A. Measures of Worth of a Project: Comparison of Benefits and Costs**

- Undiscounted measures of project worth: payback period, proceeds per unit of outlay, average annual proceeds per unit of outlay, and average income on book value of investment.
- Discounted measures: net present worth, internal rate of return, benefit-cost ratio, net benefit investment ratio.
- Comparative assessment of various discounted measures.

#### **B. Applications of Discounted Measures of Project Worth**

- Sensitivity analysis.
- Choosing between mutually exclusive projects.
- Derivation of domestic resource cost of foreign exchange earnings/savings.

#### **C. Cost-Effectiveness Analysis**

- Areas of application.
- Elements of the analysis.
- Methods of analysis: constant effects methods, constant cost method.
- Measures of cost-effectiveness: present worth, annual worth, crossover discount rate.
- Limitations of cost-effectiveness analysis.

### **Recommended Books**

1. Mertens, D. M., & Wilson, A. T. (2012). Program Evaluation Theory and Practice: A Comprehensive Guide . The Guilford Press.
2. McDavid, J. C., Huse, I., & Hawthorn, L. R. L. (2012). Program Evaluation and Performance Measurement: An Introduction to Practice (2nd ed.). SAGE Publications.
3. Owen, J. M., & Alkin, M. C. (2006). Program Evaluation: Forms and Approaches (3rd ed.). The Guilford Press.



4. Heagney, J. (2011). *Fundamentals of Project Management* (4th ed.). AMACOM Publishing.
5. Samset, K. (2003). *Project Evaluation: Making Investments Succeed* . Akademika Publishing.
6. Patton, M. Q. (2010). *Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use* . The Guilford Press.

## **ECO 609.17: Public Sector Economics**

### **Course Description**

This course is designed to provide a comprehensive understanding of the impact of government policies on resource allocation and the equitable distribution of income. It explores the role of public economics in analyzing and identifying the effects of public policy on various macroeconomic indicators. Students will develop economic and social intuition regarding government expenditures, taxation, and the social security benefits associated with public financing. The course aims to equip students with the ability to anticipate the consequences of public policies before they are implemented.

### **Course Objectives**

By the end of this course, students will be able to:

1. Understand the role and importance of public sector economics in resource allocation and income distribution.
2. Analyze the effects of government policies on key macroeconomic indicators.
3. Evaluate the economic and social implications of government expenditures, taxation, and social security.
4. Develop a critical perspective on public policy formulation and implementation.

### **Course Contents**

#### **1. Introduction to Public Sector Economics**

- Importance of public sector economics
- Motivation: Efficiency versus equity
- Information and methodology
- Public sector income and expenditure

#### **2. General Equilibrium and Welfare Economics**

- Introduction to general equilibrium and welfare economics
- The Arrow-Debreu economy
- Institutional framework, commodities, consumers, and producers
- Equilibrium: Walras' law, normalizations, and relaxation of strict convexity
- Existence of equilibrium
- Policy analysis: Core of the economy and net trades
- Welfare properties of competitive equilibrium
- Lump-sum transfers and taxes, institutional assumptions, Pareto optimality
- Interpersonal comparisons, social welfare, and social choice

#### **3. Measurement of the Public Sector**

- Income measurement
- Equivalence scales: Minimum needs, Engel and Rothbarth, Prais and Houthakker, Barten
- Inequality measurement: Statistical measures, Generalized Lorenz Curves, welfare-theoretic indices, and axiomatic inequality measures

- Poverty measurement: Relative vs. absolute, poverty line, standard measures, and axiomatic approach

#### **4. Commodity Taxation**

- Introduction and methodology of commodity taxation
- The Ramsey rule, inverse elasticities rule
- Optimal tax rule and extensions
- Generalizing production technology, untaxed goods, uniform taxes, production efficiency

#### **5. Income Taxation**

- The Mirrlees economy
- Characterization of optimal tax function
- Simulations and specification choices
- Income and commodity taxes, omissions

#### **6. Policy Reform**

- Reform problem and productive feasibility
- Improving reforms: Characterizing possibilities, Theorems of the Alternative
- Productive efficiency and maximizing reforms
- Lump-sum taxes, inverse optimum, marginal social cost of taxation, political constraints

#### **7. Risk**

- Introduction to risk in public sector economics
- General equilibrium with risk
- Risk in the Arrow-Debreu economy
- Private and social attitudes to risk
- Household choice and taxation
- Labor supply and occupational choice
- Optimal taxation: Private risk and aggregate risk

#### **Recommended Books**

1. Brown, C. V., & Jackson, P. (1991). *Public Sector Economics* (4th ed.). Wiley-Blackwell.
2. Hyman, D. N. (2010). *Public Finance: A Contemporary Application of Theory to Policy* (10th ed.). Cengage Learning.
3. Yescombe, E. R. (2007). *Public-Private Partnerships: Principles of Policy and Finance*. Butterworth-Heinemann Publishing.
4. Rainey, H. G. (2014). *Understanding and Managing Public Organizations* (5th ed.). Jossey-Bass.
5. Mikesell, J. (2010). *Fiscal Administration* (8th ed.). Cengage Learning.

## **ECO 610.17: Public Sector Economics**

### **Course Description**

This course is a continuation of Public Sector Economics I, focusing on the facets of taxation within public sector economics. Students will gain a deep understanding of the characteristics of taxation, the provision of public goods, and the effects of externalities and imperfect competition. The course also addresses critical issues such as tax evasion, public debt, and social security, analyzing their impact on the economy from various perspectives.

### **Course Objectives**

By the end of this course, students will be able to:

1. Analyze the characteristics and implications of different taxation systems.
2. Understand the provision and financing of public goods.
3. Evaluate the economic effects of externalities and imperfect competition.
4. Assess the issues related to tax evasion, public debt, and social security.
5. Apply theoretical knowledge to contemporary issues in public finance and policy.

### **Course Contents**

#### **1. Corporate Taxation**

- Introduction to corporate taxation
- Taxation of the firm: Input and output taxes, profit tax, personal taxes
- Tax incidence in the Herberger economy
- Taxation and finance: Systems of corporate and personal taxation
- Finance and investment with certainty and uncertainty

#### **2. Public Goods**

- Pure and impure public goods, congestion
- Optimal provision of public goods
- Personalized prices and Lindahl equilibrium
- Private provision of public goods
- Financing by taxation: Identical consumers, differentiated households
- Dominant strategies, Nash equilibrium, Bayesian equilibria
- Experimental evidence and market data

#### **3. Externalities**

- Types of externalities and market inefficiency
- Pareto irrelevant externalities and the Coase theorem
- Markets for externalities and welfare-improving changes
- Corrective taxation: Non-uniform and uniform taxation, tradable licenses, internalization

#### **4. Imperfect Competition**

- Imperfect competition and general equilibrium
- Welfare implications of imperfect competition

- Commodity taxation: Ad valorem and specific taxes
- Optimal combinations and production efficiency
- Taxation of labor and other forms of regulation

### **5. Tax Evasion**

- Extent and determinants of tax evasion
- Evasion as a decision under risk
- Optimal auditing, punishment, and tax evasion
- Tax evasion and labor supply
- Evaluation of public funds and congestible public goods
- Social norms, honesty, and firm-level tax evasion
- Optimal taxation considering evasion

### **6. Overlapping Generations Economies**

- Overlapping generations and the Samuelson economy
- Existence of equilibrium, money, dynamics, and indeterminacy
- Aggregate production economy: Steady state solution, golden rules, Pareto optimality

### **7. Social Security**

- Fully funded vs. pay-as-you-go systems
- Optimal social security programs
- Labor supply, retirement, savings, and capital effects
- Ricardian equivalence and demographics
- Determination, justification, and voting equilibria
- Altruism, myopia, uncertainty, symmetric information, adverse selection, moral hazard

### **8. Debt and Taxes**

- Economic effects of public debt
- Optimization of debt and lump-sum taxes
- Debt neutrality: Special cases, intergenerational altruism, and generalizations
- Income and interest taxation

### **Recommended Books**

1. Brown, C. V., & Jackson, P. (1991). *Public Sector Economics* (4th ed.). Wiley-Blackwell.
2. Hyman, D. N. (2010). *Public Finance: A Contemporary Application of Theory to Policy* (10th ed.). Cengage Learning.
3. Yescombe, E. R. (2007). *Public-Private Partnerships: Principles of Policy and Finance*. Butterworth-Heinemann Publishing.
4. Rainey, H. G. (2014). *Understanding and Managing Public Organizations* (5th ed.). Jossey-Bass.
5. Mikesell, J. (2010). *Fiscal Administration* (8th ed.). Cengage Learning.

## **ECO 609.18: Management Economics**

### **Course Description:**

This is the first part of a two-semester course on Management Economics. It introduces the principles, concepts, and historical perspectives of management within economics. The course emphasizes the critical functions of management, such as planning, organizing, staffing, leading, and controlling, and explores the impact of poor management on business ventures. Students will develop analytical and conceptual understandings of economic behavior and management practices in various organizational contexts, ranging from small enterprises to large national and international organizations.

### **Course Objectives:**

- To understand the principles and historical development of management in economics.
- To explore the various functions of management and their importance in business operations.
- To analyze the potential consequences of ineffective management on business ventures.
- To develop critical thinking and analytical skills in managing people and resources in different organizational settings.

### **Course Contents:**

#### **1. The Economics of Management**

- Overview and scope of Management Economics
- Evolution and emergence of management thought
- Emergence of behavioral sciences
- Management functions: planning, organizing, staffing, leading, controlling

#### **2. Planning and Decision Making**

- Nature and purpose of planning
- Objectives: setting and managing by objectives
- Types of plans and planning processes
- Rational decision making: alternatives and decision-making under uncertainty

#### **3. Organizing**

- Nature and purpose of organizing
- Organizational structures: formal and informal
- Departmentalization, span of management, decentralization, and delegation of authority

#### **4. Staffing**

- Definition and importance of staffing
- Human Resource Management: recruitment, selection, training, and appraisal
- Career strategy formulation

#### **5. Leading**

- Motivation and behavioral models (e.g., McGregor's Theory X and Theory Y, Maslow's hierarchy)

- Leadership theories and styles
- Communication: functions, processes, and barriers

## **6. Controlling**

- Basic control processes
- Control techniques, including time-event network analysis and program budgeting
- Relationship between controlling and planning

## **7. Management and Society**

- Operation in a pluralistic society
- External environment: economic, technological, political, and legal
- Social responsibility, ethics, and future perspectives of management

### **Recommended Books:**

- Hill, C. W. L., & Jones, G. R. (2012). Strategic Management: An Integrated Approach (10th ed.). Cengage Learning.
- Rothaermel, F. (2012). Strategic Management: Concepts. McGraw-Hill/Irwin.
- David, F. R. (2012). Strategic Management: A Competitive Advantage Approach, Concepts and Cases (14th ed.). Prentice Hall.
- Schermerhorn, J. R. (2012). Management (11th ed.). Wiley.
- Rue, L., Byars, L., & Ibrahim, N. (2012). Management: Skills & Application (14th ed.). McGraw-Hill/Irwin.

## **ECO 610.18: Management Economics**

### **Course Description:**

This course is a continuation of Management Economics I, focusing on advanced topics in management, including strategy formulation and competitive analysis. It delves into the strategic decisions that affect the performance and sustainability of business enterprises. The course takes an interdisciplinary approach, examining the internal and external environments that influence strategic management in various organizational contexts.

### **Course Objectives:**

- To understand key concepts and models of strategic management.
- To analyze the internal and external factors influencing business strategy.
- To explore various strategic management tools and frameworks.
- To apply strategic management principles in different organizational settings, including nonprofit and governmental organizations.

### **Course Contents:**

#### **1. Nature of Strategic Management**

- Introduction to Strategic Management
- Strategic-management models and their benefits
- Vision and mission statements: crafting and evaluating

#### **2. The External Assessment**

- Conducting an external audit
- Industrial organization view and external forces
- Competitive analysis: Porter's Five Forces and industry analysis tools

#### **3. The Internal Assessment**

- Internal audits and the Resource-Based View (RBV)
- Value Chain Analysis (VCA) and The Internal Factor Evaluation (IFE) Matrix
- Integration of strategy with organizational culture and functional areas

#### **4. Strategies in Action**

- Long-term objectives and the balanced scorecard
- Types of strategies: integration, diversification, and Michael Porter's five generic strategies
- Strategic management in small firms and nonprofit organizations

#### **5. Strategy Analysis and Choice**

- Strategy formulation frameworks: SWOT, SPACE, BCG, IE, and Grand Strategy Matrix
- Decision-making processes and QSPM
- Governance issues and the politics of strategy choice



## **6. Implementing Strategies**

- Strategy implementation and resource allocation
- Managing conflict and resistance to change
- Linking performance and pay to strategies

## **7. Implementing Strategies**

- Marketing, R&D, and MIS issues in strategy implementation
- Market segmentation and product positioning
- Current issues and challenges in strategy implementation

### **Recommended Books:**

- Hill, C. W. L., & Jones, G. R. (2012). Strategic Management: An Integrated Approach (10th ed.). Cengage Learning.
- Rothaermel, F. (2012). Strategic Management: Concepts. McGraw-Hill/Irwin.
- David, F. R. (2012). Strategic Management: A Competitive Advantage Approach, Concepts and Cases (14th ed.). Prentice Hall.
- Schermerhorn, J. R. (2012). Management (11th ed.). Wiley.
- Rue, L., Byars, L., & Ibrahim, N. (2012). Management: Skills & Application (14th ed.). McGraw-Hill/Irwin.

## ECO 609.19: Managerial Economics

### Course Description:

Managerial Economics I introduce students to the application of microeconomic principles in the decision-making processes of firms operating under conditions of risk and uncertainty. The course equips students with tools and techniques from microeconomic theory to address managerial challenges, including optimization, demand estimation, and analysis of market structures such as monopoly, monopolistic competition, and oligopoly.

### Course Objectives:

- To understand the relationship between economic theory and managerial decision-making.
- To apply optimization techniques to solve managerial problems.
- To analyze demand, cost, and production functions using empirical data.
- To explore different market structures and their impact on firm behavior.

### Course Contents:

#### 1. Introduction

- Overview of Managerial Economics and its relationship to economic theory
- Objectives of the firm, marginal analysis, and the concept of profit

#### 2. Optimization Techniques and New Management Tools

- Methods of expressing economic relationships: equations, graphs
- Simple and multivariate optimization techniques
- Applications of optimization in management practices

#### 3. Demand Theory

- Market demand curves, price elasticity, and determinants of elasticity
- Revenue and expenditure analysis using elasticity concepts

#### 4. Demand Estimation and Forecasting

- Introduction to regression analysis and its applications in demand estimation
- Challenges in regression analysis and methods to overcome them

#### 5. Demand Forecasting

- Survey techniques, time series analysis, and econometric models
- Forecasting demand for normal commodities with case studies

#### 6. Production Function, Technological Change, and Industrial Innovation

- Analysis of production functions and returns to scale
- Impact of technological change and industrial innovation on productivity

#### 7. Cost Analysis

- Short-run and long-run cost functions and economies of scale

- Cost estimation techniques and their applications in different industries

## **8. Market Structure**

- Analysis of perfect competition, monopoly, and monopolistic competition
- Oligopoly models and the dynamics of collusive agreements

### **Recommended Books:**

- Thomas, C., & Maurice, S. C. (201

2). *Managerial Economics: Foundations of Business Analysis and Strategy* (10th ed.). McGraw-Hill/Irwin.

- Samuelson, P. A., & Marks, S. G. (2015). *Managerial Economics* (9th ed.). Wiley.

- Salvatore, D. (2015). *Managerial Economics in a Global Economy* (8th ed.). Oxford University Press.

- Keat, P., & Young, P. (2009). *Managerial Economics: Economic Tools for Today's Decision Makers* (6th ed.). Prentice Hall.

- Baye, M. R. (2013). *Managerial Economics and Business Strategy* (8th ed.). McGraw-Hill/Irwin.

- Froeb, L. M., & McCann, B. T. (2016). *Managerial Economics: A Problem-Solving Approach* (4th ed.). Cengage Learning.

- Brickley, J. A., Smith, C. W., & Zimmerman, J. L. (2015). *Managerial Economics and Organizational Architecture* (6th ed.). McGraw-Hill/Irwin.

- Peterson, H. C., & Lewis, W. C. (2012). *Managerial Economics* (4th ed.). Prentice Hall.

## ECO 610.19: Managerial Economics

### Course Description:

Managerial Economics II builds upon the concepts learned in the first part of the course, focusing on strategic decision-making in the context of imperfect competition, risk management, and public policy implications. The course also addresses more advanced topics, including game theory, pricing strategies, and government regulation.

### Course Objectives:

- To analyze strategic interactions among firms using game theory.
- To explore various pricing strategies under different market conditions.
- To assess the role of government regulation in influencing managerial decisions.
- To understand risk management techniques and their applications in business decisions.

### Course Contents:

#### 1. Game Theory and Strategic Behavior

- Introduction to game theory and Nash equilibrium
- Applications of game theory in oligopoly, including Cournot, Bertrand, and Stackelberg models
- Case studies of strategic behavior and competitive advantage

#### 2. Risk Analysis

- Understanding risk and uncertainty in managerial decisions
- Risk assessment techniques: probability analysis, decision trees
- Diversification and portfolio theory in risk management

#### 3. Pricing Practices

- Pricing strategies for multiple products, price discrimination
- Peak-load pricing, transfer pricing, and cost-plus pricing
- Case studies on pricing in different market structures

#### 4. Government and Managerial Policy

- Economic and social regulation: antitrust laws, trade policies
- Regulatory agencies and their impact on managerial decisions
- Public policies and their influence on market behavior

#### 5. Capital Budgeting and Investment Decisions

- Net present value, internal rate of return, and capital rationing
- Risk analysis in capital budgeting: sensitivity analysis and scenario planning

#### 6. Public Policy and Managerial Decisions

- The economics of regulation, deregulation, and public goods
- Taxation and its impact on corporate decision-making
- Case studies on public policy and business strategies

## **7. Managerial Decisions in Global Contexts**

- International economics and managerial decision-making
- Exchange rates, trade policies, and global competition
- Challenges and strategies for multinational corporations

### **Recommended Books:**

- Thomas, C., & Maurice, S. C. (2012). *Managerial Economics: Foundations of Business Analysis and Strategy* (10th ed.). McGraw-Hill/Irwin.
- Samuelson, P. A., & Marks, S. G. (2015). *Managerial Economics* (9th ed.). Wiley.
- Salvatore, D. (2015). *Managerial Economics in a Global Economy* (8th ed.). Oxford University Press.
- Keat, P., & Young, P. (2009). *Managerial Economics: Economic Tools for Today's Decision Makers* (6th ed.). Prentice Hall.
- Baye, M. R. (2013). *Managerial Economics and Business Strategy* (8th ed.). McGraw-Hill/Irwin.
- Froeb, L. M., & McCann, B. T. (2016). *Managerial Economics: A Problem-Solving Approach* (4th ed.). Cengage Learning.
- Brickley, J. A., Smith, C. W., & Zimmerman, J. L. (2015). *Managerial Economics and Organizational Architecture* (6th ed.). McGraw-Hill/Irwin.
- Peterson, H. C., & Lewis, W. C. (2012). *Managerial Economics* (4th ed.). Prentice Hall.

## **ECO 609.20: Economics of Marketing**

### **Course Description**

This course introduces students to the fundamentals of marketing, including key concepts, methods of analysis, and strategic approaches essential for managing profitable customer relationships in a dynamic, connected environment. The course is relevant for manufacturing companies, wholesalers, retailers, and other organizations, providing a comprehensive understanding of basic marketing concepts with an emphasis on economic analysis.

### **Course Objectives**

- To introduce the essential concepts and principles of marketing.
- To understand the role of marketing in various types of organizations.
- To develop skills in creating customer-driven marketing strategies.
- To analyze marketing environments and their impact on decision-making.
- To explore consumer and business buyer behavior.
- To examine product development, branding, and pricing strategies.

### **Course Contents**

#### **1. Introduction**

- Marketing: Introduction and the Marketing Process
- Marketplace, Customer Needs, Wants, and Demands
- Designing a Customer-Driven Marketing Strategy
- Integrated Marketing Plan and Program
- Building Customer Relationships

#### **2. Company and Marketing Strategy**

- Company-Wide Strategic Planning
- Planning Marketing Strategies and the Marketing Mix
- Managing the Marketing Effort
- Measuring and Managing Return on Marketing Investment

#### **3. Analyzing the Marketing Environment**

- Microenvironment: Company, Suppliers, Marketing Intermediaries, Competitors, Public, and Customers
- Macroenvironment: Demographic, Economic, Natural, Technological, Political, Social, and Cultural Environment
- Responding to the Marketing Environment

#### **4. Managing Marketing Information to Gain Customer Insights**

- Marketing Information and Research
- Problem and Research Objectives
- Research Plan and Data Collection
- Analyzing and Using Marketing Information

## **5. Consumer Markets and Consumer Buyer Behavior**

- Model of Consumer Behavior
- Characteristics Affecting Consumer Behavior
- Types of Buying Decision Behavior
- Buyer Decision Process for Existing and New Products

## **6. Business Markets and Business Buyer Behavior**

- Business Markets: Structure and Demand
- Major Types of Buying Situations
- Business Buying Process
- Institutional and Government Markets

## **7. Customer-Driven Marketing Strategy**

- Creating Value for Target Customers
- Market Segmentation: Consumer, Business, and International Markets
- Market Targeting, Differentiation, and Positioning Strategies

## **8. Products, Services, and Brands**

- Building Customer Value through Products and Services
- Product and Service Decisions
- Services Marketing and Branding Strategy

## **9. New Product Development**

- New Product Development Strategy and Process
- Concept Development and Testing
- Marketing Strategy Development and Product Life Cycle Strategies

## **10. Pricing**

- Major Pricing Strategies
- Customer Value-Based Pricing, Cost-Based Pricing, and Competition-Based Pricing
- Factors Affecting Pricing Decisions

### **Recommended Books**

- Kotler, P., & Armstrong, G. (2013). Principles of Marketing (15th ed.). Pearson.
- Jobber, D., & Ellis-Chadwick, F. (2012). Principles and Practice of Marketing (7th ed.). McGraw-Hill Education.
- Brassington, F., & Pettitt, S. (2012). Essentials of Marketing (3rd ed.). Pearson.
- Armstrong, G., Kotler, P., Harker, M., & Brennan, R. (2012). Marketing: An Introduction (3rd ed.). Pearson.
- Palmer, A. (2012). Introduction to Marketing: Theory and Practice (3rd ed.). Oxford University Press.
- Masterson, R., & Pickton, D. (2010). Marketing: An Introduction (2nd ed.). SAGE Publications Ltd.

## **ECO 610.20: Economics of Marketing**

### **Course Description**

This course delves into advanced marketing topics, including marketing channels, retailing, wholesaling, and the dynamics of customer communication. It emphasizes the development of strategies for advertising, public relations, personal selling, and sales promotion. Additionally, the course explores the global marketplace, marketing ethics, and social responsibility, preparing students to navigate the complexities of modern marketing.

### **Course Objectives**

- To understand the nature and importance of marketing channels, retailing, and wholesaling.
- To develop strategies for effective customer communication, including advertising and public relations.
- To analyze personal selling and sales promotion techniques.
- To explore direct and online marketing in the digital age.
- To create competitive advantages in the global marketplace.
- To examine marketing ethics and social responsibility in business practices.

### **Course Contents**

#### **1. Marketing Channels**

- Supply Chains and Value Delivery Network
- Nature and Importance of Marketing Channels
- Channel Behavior and Organization
- Channel Design and Management Decisions

#### **2. Retailing and Wholesaling**

- Types of Retailers and Retailer Marketing Decisions
- Retailing Trends and Developments
- Types of Wholesalers and Wholesaler Marketing Decisions

#### **3. Communicating Customer Value**

- Integrated Marketing Communications Strategy
- Promotion Mix and New Marketing Communications Model
- Developing Effective Marketing Communication

#### **4. Advertising and Public Relations**

- Setting Advertising Objectives and Budget
- Developing Advertising Strategy
- Evaluating Advertising Effectiveness
- Role and Impact of Public Relations

#### **5. Personal Selling and Sales Promotion**

- Nature and Role of Personal Selling



- Managing the Sales Force
- Designing Sales Force Strategy and Structure
- Personal Selling Process and Customer Relationships

## **6. Direct and Online Marketing**

- Building Direct Customer Relationships
- Growth and Benefits of Direct Marketing
- Forms of Direct Marketing and Online Marketing Domains
- Public Policy Issues in Direct Marketing

## **7. Creating Competitive Advantage**

- Competitor Analysis and Competitive Strategies
- Basic Competitive Strategies: Leader, Challenger, Follower, Nicher
- Balancing Customer and Competitor Orientations

## **8. The Global Marketplace**

- Global Marketing Environment
- International Trade Systems and Economic Environment
- Strategies for Global Marketing Programs

## **9. Marketing Ethics and Social Responsibility**

- Marketing's Impact on Individuals, Society, and Other Businesses
- Sustainable Marketing and Consumerism
- Business Actions Toward Sustainable Marketing
- Principles of Marketing Ethics

### **Recommended Books**

- Kotler, P., & Armstrong, G. (2013). Principles of Marketing (15th ed.). Pearson.
- Jobber, D., & Ellis-Chadwick, F. (2012). Principles and Practice of Marketing (7th ed.). McGraw-Hill Education.
- Brassington, F., & Pettitt, S. (2012). Essentials of Marketing (3rd ed.). Pearson.
- Armstrong, G., Kotler, P., Harker, M., & Brennan, R. (2012). Marketing: An Introduction (3rd ed.). Pearson.
- Palmer, A. (2012). Introduction to Marketing: Theory and Practice (3rd ed.). Oxford University Press.

## **ECO 609.21: Financial Markets and Institutions**

### **Course Description**

This course provides an in-depth analysis of financial markets and institutions, focusing on the role they play in the economy. Students will explore key financial products, interest rates, and the efficiency of the financial system, as well as the causes and management of financial crises.

### **Course Objectives**

- Understand the rationale behind the financial system and the various financial products.
- Analyze the implications of interest rates and their fluctuations in the economy.
- Explore the concept of financial system efficiency.
- Examine the causes of financial crises and strategies to mitigate their impact in the future.

### **Course Contents**

#### **1. Introduction**

Overview of the financial system and its significance.

#### **2. An Economic Analysis of Financial Structure**

Detailed examination of the financial structure and its economic implications.

#### **3. Asset Markets and Asset Prices**

Analysis of asset markets, including price determination and market dynamics.

#### **4. Asset Market Microstructure**

Study of the organization and operation of asset markets at a granular level.

#### **5. Predictability of Prices and Market Efficiency**

Discussion on market efficiency and the ability to predict asset prices.

#### **6. Decision Making Under Uncertainty**

Theories and practices related to financial decision-making under uncertainty.

#### **7. Economic Analysis of Banking Regulation**

(Chapter 11 from Mishkin) Examination of banking regulations and their economic impact.

#### **8. Non-Bank Financial Institutions**

(Chapter 12 from Mishkin) Study of institutions other than banks, including their roles and risks.

#### **9. Financial Derivatives**

(Chapter 13 from both Mishkin and Fabozzi) Analysis of financial derivatives, their uses, and associated risks.

## **10. Organization and Structure of Markets: Secondary Markets**

(Chapter 7) Structure and function of secondary financial markets.

## **11. Risk and Return Theories**

(Chapter 8) Exploration of various theories related to risk and return.

## **12. The Equity Market**

(Chapter 13) Study of equity markets, including pricing and trading mechanisms.

## **13. Interest Rate Determination**

(Chapter 17) Examination of factors influencing interest rate levels.

### **Recommended Books**

- Mishkin, F. S. (2007). *The Economics of Money, Banking, and Financial Markets*. Pearson Education.
- Bailey, R. E. (2005). *The Economics of Financial Markets*. Cambridge University Press.

## **ECO 610.21: Financial Markets and Institutions**

### **Course Description**

This course continues from Financial Markets and Institutions I, delving into advanced topics such as stock markets, international financial systems, financial regulations, and risk management in financial institutions. It also explores the role of finance in society, insurance, and the mechanisms of financial crises.

### **Course Objectives**

- Examine the relationship between finance and society.
- Analyze the functioning and impact of stock markets.
- Understand the international financial system and its regulations.
- Explore advanced risk management techniques in financial institutions.
- Investigate the causes and consequences of financial crises.

### **Course Contents**

#### **1. Finance and Good Society**

(Shiller, 2013) Exploration of the ethical and societal implications of finance.

#### **2. The Stock Market**

(Chapter 13 from Mishkin) Detailed study of stock markets, including key theories and practical considerations.

#### **3. The International Financial System**

(Chapter 16) Analysis of the global financial system, including key institutions and policies.

#### **4. Financial Regulations**

(Chapter 18) Examination of regulatory frameworks governing financial markets.

#### **5. Risk Management in Financial Institutions**

(Chapter 23) Advanced techniques in managing financial risks.

#### **6. Hedging with Financial Derivatives**

(Chapter 24) Practical approaches to using derivatives for risk management.

#### **7. Insurance Companies**

Study of the role and functioning of insurance companies in financial markets.

#### **8. Investment Companies and Exchange-Traded Funds**

Analysis of investment companies and the growing role of ETFs.

#### **9. Why Do Financial Crises Occur and Why Are They So Damaging to the Economy?**

(Chapter 8 from Mishkin) In-depth exploration of the causes and effects of financial crises.

**Recommended Books**

- Mishkin, F. S. (2007). The Economics of Money, Banking, and Financial Markets. Pearson Education.
- Bailey, R. E. (2005). The Economics of Financial Markets. Cambridge University Press.
- Shiller, R. J. (2013). Finance and the Good Society. Princeton University Press.
- Additional articles and papers as Recommended in the course contents.

## **ECO 609.22: Comparative Economics**

### **Course Description**

This course provides an in-depth examination of various economic systems, including capitalism, communism, and socialism. Students will explore the historical development, key characteristics, and evaluations of these systems, focusing on their institutional structures, economic decision-making processes, and societal impacts. The course emphasizes a comparative approach, enabling students to critically analyze the strengths and weaknesses of different economic systems across various regions.

### **Course Objectives**

- To understand and analyze distinct economic systems and their historical evolution.
- To classify and evaluate different economic systems based on specific criteria.
- To compare the characteristics of capitalism, communism, and socialism.
- To assess the practical implications and outcomes of these systems in different regions, particularly the USA, Europe, USSR, and China.

### **Course Contents**

#### **1. Introduction**

- Classification of different economic systems
- Historical development
- Criteria for evaluating economic systems

#### **2. Capitalism**

- Definition and historical development
- Pre-requisites and economic institutions of capitalism
- Private vs. public property in production
- Price system, profit maximization, cost minimization, and competition
- Economic decision-making under capitalism
- Evaluation of capitalism in the USA and Europe
- Market system and environmental problems

#### **3. Communism and Socialism**

- Meaning and nature of communism and socialism
- Power centralization under communism
- Concepts of ownership and production
- Types of communism, including Marxism
- Economic planning and decision-making under socialism
- Achievements and failures of communism/socialism
- Analysis of communism/socialism in the USSR, China, and other regions
- Modern trends, the convergence of capitalism and socialism, and the current status of socialism

### **Recommended Books**

- Kindleberger, C. P. (1978). *Economic response: Comparative studies in trade, finance, and growth*. Harvard University Press.
- Conklin, D. W. (1991). *Comparative economic systems: Objectives, decision modes, and the process of choice*. Cambridge University Press.
- Solingen, E. (2014). *Comparative regionalism: Economics and security*. Routledge.
- Gardner, H. S. (1997). *Comparative economic systems (2nd ed.)*. South-Western College Publishing.
- Rosser, J. B., Jr., & Rosser, M. V. (2003). *Comparative economics in a transforming world economy (2nd ed.)*. The MIT Press.
- Angresano, J. (1995). *Comparative economics (2nd ed.)*. Prentice Hall.

## **ECO 610.22: Comparative Economics**

### **Course Description**

This course continues the comparative analysis of economic systems, focusing on the mixed economy and the Islamic economic system. Students will explore the distinctive features of Islamic economics, compare it with capitalism and communism, and analyze the economic system of Pakistan. The course provides a comprehensive understanding of how different economic systems address issues of equity, welfare, and economic management.

### **Course Objectives**

- To examine the principles and functioning of mixed economies.
- To understand the distinctive features and values of the Islamic economic system.
- To compare Islamic economics with other systems, including capitalism and communism.
- To analyze the economic history and current economic system of Pakistan, including its challenges and reforms.

### **Course Contents**

#### **1. Mixed Economy**

- Need for a mixed economy
- Means of production and participation in managerial decisions
- Organizational structure of mixed economies

#### **2. Economic System of Islam**

- Distinctive features and basic economic values of Islam
- Role of economic institutions in Islam
- Property rights, production, and distribution systems
- Concept of the welfare state in Islam
- Comparative analysis: Islamic system vs. capitalism and communism

#### **3. Economic System in Pakistan**

- Brief economic history of Pakistan
- Mixed economy: Nationalization, privatization, and liberalization
- Islamization process in Pakistan: Challenges and achievements
- Islamic economics as a global system of equity and welfare

### **Recommended Books**

- Kindleberger, C. P. (1978). Economic response: Comparative studies in trade, finance, and growth. Harvard University Press.
- Conklin, D. W. (1991). Comparative economic systems: Objectives, decision modes, and the process of choice. Cambridge University Press.
- Solingen, E. (2014). Comparative regionalism: Economics and security. Routledge.
- Gardner, H. S. (1997). Comparative economic systems (2nd ed.). South-Western College Publishing.



- Rosser, J. B., Jr., & Rosser, M. V. (2003). *Comparative economics in a transforming world economy* (2nd ed.). The MIT Press.
- Angresano, J. (1995). *Comparative economics* (2nd ed.). Prentice Hall.
- Saeed, J. (1994). *Islam and modernization: A comparative analysis of Pakistan, Egypt, and Turkey*. Praeger.
- Schnitzer, M. (1999). *Comparative economic systems* (8th ed.). South-Western College Publishing.
- Choudhury, M. A. (1999). *Comparative economic theory: Occidental and Islamic perspectives*. Springer.
- Ahmad, M. (1999). *Business ethics in Islam*. Kitab Bhavan.

## **ECO 609.23: Islamic Economics and Finance**

### **Course Description**

This course provides a comprehensive introduction to the foundational concepts of Islamic economics, focusing on both microeconomic and macroeconomic perspectives within the Islamic framework. Students will explore the distinctive features of Islamic economic principles and how they compare to conventional economic systems.

### **Course Objectives**

- To understand the fundamental principles of Islamic economics.
- To analyze microeconomic and macroeconomic issues within the Islamic framework.
- To compare and contrast Islamic and conventional economic systems.
- To evaluate the role of government and policy-making in an Islamic economy.

### **Course Contents**

#### **1. Introduction to Islamic Economics**

- Overview of Islamic Economics
- Sources and Foundations of Islamic Economics
- The Nature and Need for Islamic Economics
- Contributions and Comparative Analysis of Islamic and Conventional Economic Systems

#### **2. Microeconomics in Islamic Framework**

- Microeconomic Issues in Islamic Context
- Theory of Consumer Behavior in Islam
- Production Theory and Producer Equilibrium in Islam
- Price Mechanism and Price Control in Islamic Economics
- Role of Al-Hisba Firm in Market Regulation

#### **3. Macroeconomics in Islamic Framework**

- The Role of Government in an Islamic State
- Concept of State Ownership in Islam
- Fiscal Policy in an Islamic Context
- Monetary Policy and Wealth Distribution in Islamic Economics

### **Recommended Books**

- Usmani, T. (2002). Islamic Finance. Darul Ishaat.
- Usmani, T. (1999). The Historical Judgment on Interest. Idara Talimat-e-Islam.
- Samdani, E. (2008). Insurance and Takaful. Islamic Research Academy.
- Usmani, I. A. (2011). Guide to Meezan Bank. Meezan Bank.

## **ECO 610.23: Islamic Economics and Finance**

### **Course Description**

This course delves into the advanced concepts of Islamic economics and finance, focusing on Islamic modes of financing, the prohibition of riba, takaful, and Islamic contracts. Students will gain a deep understanding of the operational and theoretical aspects of Islamic financial systems.

### **Course Objectives**

- To understand the advanced principles of Islamic economics and finance.
- To explore the concept and impact of riba in an economy.
- To learn about various Islamic modes of financing and their applications.
- To analyze the principles and models of Takaful (Islamic Insurance).
- To understand the rules and conditions governing Islamic contracts.

### **Course Contents**

#### **1. Islamic Economics & Finance**

- Introduction to Islamic Banking & Finance
- Divine Guidance for an Islamic Economy
- Evolution and Development of Islamic Banking & Finance
- Comparative Analysis of Conventional and Islamic Banking

#### **2. Concept of Riba and Its Impact on Economy**

- Definition and Historical Background of Riba
- Different Types of Riba
- Prohibition of Riba in Shariah
- Distinction between Usury and Interest

#### **3. Islamic Modes of Financing**

- Mudarabah, Musharakah, Ijarah, Murabaha, Istisna, Salam
- Agricultural Financing: Muzara and Musaqat

#### **4. Takaful - Islamic Insurance Operations**

- Nature and Business of Insurance in Islam
- Principles and Objectives of Takaful
- Operational Models of Takaful Worldwide

#### **5. Islamic Contract**

- Early Islamic Contracts
- Rules and Conditions for Sales (Bai)
- Credit Sales: Murabaha and Musawamah
- Forward Sales: Salam and Istisna'a

**Recommended Books**

- Usmani, T. (2002). Islamic Finance. Darul Ishaat.
- Usmani, T. (1999). The Historical Judgment on Interest. Idara Talimat-e-Islam.
- Samdani, E. (2008). Insurance and Takaful. Islamic Research Academy.
- Usmani, I. A. (2011). Guide to Meezan Bank. Meezan Bank.

## **ECO 609.24: History of Economic Thought**

### **Course Description**

This course offers a comprehensive survey of the history of economic thought, tracing the evolution of economic ideas from ancient times through the classical and socialist periods. Students will explore the contributions of key economists and schools of thought that have shaped modern economic theory.

### **Course Objectives**

- To understand the historical development of economic thought.
- To examine the contributions of major economic thinkers and schools.
- To analyze the evolution of economic ideas and their impact on modern economics.
- To appreciate the diversity of economic perspectives throughout history.

### **Course Contents**

#### **1. Introduction**

- Importance of Studying Economic History
- Overview of Ancient Greek, Roman, and Medieval Economic Thought
- Quensey's Influential Ideas
- Development of Feudalism and Mercantilism
- Overview of Islamic Economic Thought: Ibn Khaldun and Others

#### **2. Mercantilists and the Physiocrats**

- Contributions of Mercantilists and Physiocrats
- The Doctrine of Economic Process
- Transition to Liberalization: Wage Theory and Natural Price
- Changing Role of Government Over Time

#### **3. Classical School**

- Contributions of the Classical School: Adam Smith, Malthus, Ricardo
- The Labor Theory of Value
- Ricardo's Monetary Thought and the Theory of Rent
- Economic Reformers of the 18th Century

#### **4. Socialism**

- Socialism before Marx
- Contributions of English Socialists and Anarchists
- Karl Marx's Contributions and Criticisms
- Challenges to Capitalism and the German Historical School
- The Marginalist School and Neo-Classical Economics

#### **5. Concept of Welfare State**

- The Concept of Welfare State

- Contributions of Chamberlin and Robinson
- The Australian School of Thought
- Contributions of Weber and Galbraith

**Recommended Books**

- Dar, A. H., & Akram, M. M. (latest). *Islamic economics*. Ilmi Kitab Khana.
- Sandmo, A. (2011). *Economics Evolving: A History of Economic Thought*. Princeton University Press.
- Roncaglia, A. (2006). *The Wealth of Ideas: A History of Economic Thought*. Cambridge University Press.
- Sandelin, B., Trautwein, H.-M., & Wundrak, R. (2014). *A Short History of Economic Thought* (3rd ed.). Routledge.
- Hunt, E. K., & Lautzenheiser, M. (2011). *History of Economic Thought: A Critical Perspective* (3rd ed.). M. E. Sharpe.  
Princeton University Press.
- Rothbard, M. N. (2006). *Economic Thought Before Adam Smith: An Austrian Perspective on the History of Economic Thought*. CreateSpace Independent Publishing Platform.
- Brue, S., & Grant, R. (2012). *The Evolution of Economic Thought* (8th ed.). Cengage Learning.
- Medema, S. G., & Samuels, W. J. (2013). *The History of Economic Thought: A Reader* (2nd ed.). Routledge.
- Barber, W. J. (2009). *A History of Economic Thought*. Wesleyan.

## **ECO 610.24: History of Economic Thought**

### **Course Description**

This course continues the exploration of the evolution of economic thought, focusing on developments from the Keynesian revolution to contemporary economic theories. Students will examine the contributions of various schools of thought and economists, analyzing how historical events and policy responses have shaped modern economic paradigms. The course also delves into issues related to globalization, economic crises, and sustainable growth.

### **Course Objectives**

- To understand the principles and implications of Keynesian and Post-Keynesian economic theories.
- To analyze the factors contributing to the emergence of modern economic growth.
- To evaluate the causes and policy responses to economic crises, particularly in the 1970s.
- To explore contemporary economic thoughts on globalization, liberalization, and sustainable development.
- To critically assess new directions in economic research and policy formulation.

### **Course Contents**

#### **1. Keynesian and Post-Keynesian School**

- Introduction to Keynesian Economics
  - The General Theory and its implications.
  - Economic policies during the Great Depression.
  - Capitalist instability between the World Wars.
- Post-Keynesian Developments
  - The 20th-century economic paradigms.
  - Growth of the international economy.
  - Rise and fall of post-World War II economic structures.
  - Lessons from American economic history.

#### **2. Emergence of Modern Economic Growth**

- Foundations of Modern Economic Growth
  - Building blocks and key drivers.
  - The Industrial Revolution and its economic impacts.
- Structuralist and Dependency Theories
  - Contributions of Sunkel, Amir Samer, and Frank.
  - Analysis of technological change and its effects on economies.

#### **3. Crisis of the 1970s**

- Economic Turmoil of the 1970s
  - Causes and consequences of the crisis.
  - International policy responses and their effectiveness.
- Critical Issues

- Failure of trickle-down economics.
- Rational expectations revolution.
- Basic needs approach to welfare.
- Emergence and persistence of famine and poverty.

#### **4. Modern Economic Thought**

- Advancements in Economic Theories
  - Comparison between Post-Keynesian and Monetarist thoughts.
  - Understanding supply-side economics.
- Global Economic Dynamics
  - Impact of globalization and liberalization.
  - New waves of economic growth and welfare.
  - Exploration of new growth theories.
  - Debates on economic convergence and divergence.
- Future Directions
  - Quality and international trade.
  - Emergence of new markets and regionalism.
  - Innovative research directions.
  - Environment and sustainable economic growth.

#### **Recommended Books**

1. Sandmo, A. (2011). *Economics Evolving: A History of Economic Thought*. Princeton University Press.
  2. Roncaglia, A. (2006). *The Wealth of Ideas: A History of Economic Thought*. Cambridge University Press.
  3. Sandelin, B., Trautwein, H.-M., & Wundrak, R. (2014). *A Short History of Economic Thought* (3rd ed.). Routledge.
  4. Hunt, E. K., & Lautzenheiser, M. (2011). *History of Economic Thought: A Critical Perspective* (3rd ed.). M.E. Sharpe.
  9. Rothbard, M. N. (2006). *Economic Thought Before Adam Smith: An Austrian Perspective on the History of Economic Thought*. CreateSpace Independent Publishing Platform.
  10. Brue, S., & Grant, R. (2012). *The Evolution of Economic Thought* (8th ed.). Cengage Learning.
  11. Medema, S. G., & Samuels, W. J. (2013). *The History of Economic Thought: A Reader* (2nd ed.). Routledge.
  12. Barber, W. J. (2009). *A History of Economic Thought*. Wesleyan University Press.
- Dar, A. H., & Akram, M. M. (latest). *Islamic economics*. Ilmi Kitab Khana.



## **ECO 609.25: Stabilization Policy**

### **Course Description**

This course provides an in-depth introduction to the models and methods of modern macroeconomics, covering both traditional and contemporary approaches. Students will study classical models such as IS-LM and AD-AS, explore their microeconomic foundations, and examine rational expectations-based models. Emphasis is placed on understanding the roles of monetary and fiscal policies in influencing economic outcomes in both short-run and long-run contexts. The course aims to equip students with analytical tools necessary for advanced macroeconomic research and policy analysis.

### **Course Objectives**

- To understand and analyze traditional macroeconomic models and their microeconomic foundations.
- To develop proficiency in mathematical and quantitative techniques relevant to macroeconomic analysis.
- To explore the effects and effectiveness of monetary and fiscal policies under various economic conditions.
- To critically evaluate major controversies and debates in modern macroeconomic theory.
- To apply macroeconomic models to real-world policy issues and economic scenarios.

### **Course Contents**

#### **1. Introduction**

- Mathematical Foundations
  - Review of matrix algebra.
  - Differential equations: qualitative and quantitative solution techniques.
- Historical Development
  - Overview of the evolution of macroeconomic theory.
  - Transition from classical to modern macroeconomics.

#### **2. Micro-Foundations of Macroeconomics**

- Behavior of Firms
  - Investment demand theories.
  - Labor demand and production decisions.
- Behavior of Households
  - Consumption demand and lifecycle/permanent income hypotheses.
  - Money demand functions.
  - Labor supply decisions and intertemporal choices.
- Labor Market Dynamics
  - The Phillips Curve and its implications.
  - Wage and price flexibility: desirability and impact on equilibrium.

### **3. Macroeconomic Models and the Role of Economic Policy**

- Neo-Classical Keynesian Synthesis
  - Integration of classical and Keynesian perspectives.
  - Policy analysis using IS-LM and AD-AS frameworks.
- Monetary and Fiscal Policies
  - Policy effectiveness in the presence of time lags and uncertainty.
  - Interaction between monetary and fiscal instruments.
- Expectations in Macroeconomics
  - Role of adaptive and rational expectations.
  - Inflationary expectations and central bank policies.
  - Cagan's convergence requirement and hyperinflation dynamics.

#### **Recommended Books**

1. Abel, A. B., Bernanke, B. S., & Croushore, D. (2011). *Macroeconomics* (7th ed.). Pearson Education.
2. Chiang, A. C., & Wainwright, K. (2005). *Fundamentals of Mathematical Economics* (4th ed.). McGraw-Hill.
3. Gapinski, J. H. (1983). *Macroeconomics: Statics, Dynamics and Policy*. McGraw-Hill.
4. Heijdra, B. J. (2009). *Foundations of Modern Macroeconomics* (2nd ed.). Oxford University Press.
5. Mishkin, F. S. (2012). *Macroeconomics: Policy and Practice*. Pearson Education.
6. Romer, D. (2012). *Advanced Macroeconomics* (4th ed.). McGraw-Hill.

## **ECO 610.25: Stabilization Policy**

### **Course Description**

Building upon the foundations established in Stabilization Policy I, this course delves deeper into advanced topics of macroeconomic stabilization policies. Students will explore the implications of rational expectations and the Lucas Critique on economic policy formulation. The course covers contemporary issues in monetary policy, including time inconsistency, reputation, and various policy rules. Additionally, it examines open economy macroeconomics, discussing policy effectiveness under different exchange rate regimes and the complexities introduced by international economic interactions.

### **Course Objectives**

- To analyze the impact of rational expectations on economic policy effectiveness.
- To understand and critique the Lucas Critique and its relevance to policy design.
- To examine advanced concepts in monetary policy, including time inconsistency and policy rules.
- To explore macroeconomic policy formulation and outcomes in open economy settings.
- To evaluate the effects of exchange rate regimes and expectations on international economic stability.

### **Course Contents**

#### **1. Economic Policy, Rational Expectations, and the Lucas Critique**

- Rational Expectations Theory
  - Foundations and assumptions.
  - Implications for policy effectiveness and predictability.
- The Lucas Critique
  - Understanding model misspecification and policy ineffectiveness.
  - Challenges to traditional macroeconomic policy analysis.
- Staggered Wage Contracts
  - Role in economic models with rational expectations.
  - Implications for stabilization policies.
- Monetary Policy Considerations
  - Policy-making with alternative information sets.
  - Inflation dynamics and control mechanisms.
  - Time inconsistency problems in monetary policy.
  - Reputation and delegation models in central banking.
  - Evaluation of monetary policy rules: Inflation targeting and Taylor Rule.
  - Announcement effects and their influence on economic agents.
- Fiscal Policy Dynamics
  - Government budget constraints and sustainability.
  - Intrinsic dynamics of fiscal policies and debt management.

#### **2. Open Economy Macroeconomics**

- Macroeconomic Policies under Different Exchange Rate Regimes
  - Effectiveness of monetary and fiscal policies under fixed exchange rates.
  - Policy implications under flexible exchange rates.
- Exchange Rate Dynamics and Expectations
  - Role of expectations in determining exchange rates.
  - Models of exchange rate overshooting and undershooting.
- Stabilization Policies in Open Economies
  - Supply-side effects and international transmission mechanisms.
  - Analysis of stock-flow misspecification in open economy models.
  - Coordination of international economic policies.

### **Recommended Books**

1. Abel, A. B., Bernanke, B. S., & Croushore, D. (2011). *Macroeconomics* (7th ed.). Pearson Education.
2. Chiang, A. C., & Wainwright, K. (2005). *Fundamentals of Mathematical Economics* (4th ed.). McGraw-Hill.
3. Gapinski, J. H. (1983). *Macroeconomics: Statics, Dynamics and Policy*. McGraw-Hill.
4. Heijdra, B. J. (2009). *Foundations of Modern Macroeconomics* (2nd ed.). Oxford University Press.
5. Mishkin, F. S. (2012). *Macroeconomics: Policy and Practice*. Pearson Education.
6. Romer, D. (2012). *Advanced Macroeconomics* (4th ed.). McGraw-Hill.

## **ECO-609.26: Economics of Technologies**

### **Course Description**

The first semester introduces students to the fundamental concepts of technology and innovation in the context of economic growth. The focus is on understanding the different types of innovations—product, process, organizational, and institutional—and their applications in economic frameworks. Students will explore historical and theoretical models of economic growth, such as the Schumpeterian analogy, and learn how technological changes have shaped economic development over time.

### **Course Objectives**

Upon successful completion of Semester I, students will be able to:

1. Define and understand the role of technology and innovation in economic growth.
2. Identify and explain the various types of technology and innovation in the economy.
3. Analyze classical models of economic growth and their relation to technology.
4. Evaluate the contributions of innovators and entrepreneurs in driving economic progress.
5. Understand the relationship between technology, productivity, and market structures.

### **Course Contents**

#### **1. Introduction**

- Definition and Concept of Technology and Innovation
- Types of Technology and Innovation in the Economy:
  - Product, Process, Organizational, and Institutional Innovations
- Role of Technology and Innovation in Economic Growth
- Global Experiences and Case Studies

#### **2. Models of Economic Growth**

- The Schumpeter Analogy of Economic Growth

- The Solow Model: Interpretation Related to Physical and Human Capital
- Empirical Application of the Neo-Classical Growth Model
- Romer's Model of Endogenous Growth

### **3. The Economics of Ideas**

- Innovation and Productivity: Measurement and Impact
- Entrepreneurial Economics: Opportunities and Risks
- Startups, Spin-offs, and Small Business Innovation
- Entrepreneurial Finance: Venture Capital, Crowdfunding, and Incubators

### **Recommended Books**

1. Jones, C. I., & Vollrath, D. (2013). Introduction to economic growth (3rd ed.). W.W. Norton & Company.
2. Weil, D. N. (2012). Economic growth. Routledge.
3. Swann, G. M. P. (2009). The economics of innovation: An introduction. Edward Elgar Publishing.
4. Schumpeter, J. A. (1942). Capitalism, socialism and democracy. Harper and Brothers.
5. Fagerberg, J., Mowery, D. C., & Nelson, R. R. (Eds.). (2005). The Oxford handbook of innovation. Oxford University Press.

## **ECO-610.26: Economics of Technologies**

### **Course Description**

The second semester builds on the foundational knowledge acquired in Semester I and delves deeper into advanced topics such as intellectual property rights, sustainable development, and the global transformation brought about by technological advancements. This semester emphasizes the economic frameworks that facilitate innovation, with a focus on taxation, subsidies, regulation, and technology transfer. It also covers the global challenges associated with technology, such as climate change and the impact of Artificial Intelligence (AI) on economic growth.

### **Course Objectives**

Upon successful completion of Semester II, students will be able to:

1. Analyze the global regulatory framework for innovation, including taxation and subsidies.
2. Understand the role of Intellectual Property Rights (IPR) in promoting technological advancements.
3. Evaluate the economic impact of research and development (R&D) and international trade on technology transfer.
4. Critically assess the role of emerging economies and their strategies for catching up in technological innovation.
5. Comprehend the implications of Artificial Intelligence (AI) on economic growth, labor markets, and sustainable development.
6. Investigate the paradox of technology in relation to climate change and other global challenges.

### **Course Contents**

#### **4. Framework for Innovation and Technology**

- Taxation, Subsidies, and Regulatory Framework
- Intellectual Property Rights and Patent Policies
- Role of Research and Development (R&D)
- International Trade and Technology Transfer

## **5. The Global Transformation**

- Emerging Economies and Catching-Up Strategies
- Lessons for Less Developed Countries
- Innovation and Sustainable Development
- The Paradox of Technology and Climate Change
- Artificial Intelligence: Changing the Landscape of Economic Growth

### **Recommended Books**

1. Jones, C. I., & Vollrath, D. (2013). Introduction to economic growth (3rd ed.). W.W. Norton & Company.
2. Weil, D. N. (2012). Economic growth. Routledge.
3. Swann, G. M. P. (2009). The economics of innovation: An introduction. Edward Elgar Publishing.

### **Recommended Readings**

1. Schumpeter, J. A. (1942). Capitalism, socialism and democracy. Harper and Brothers.
2. Fagerberg, J., Mowery, D. C., & Nelson, R. R. (Eds.). (2005). The Oxford handbook of innovation. Oxford University Press.



## **ECO-609.27: Economics of Tourism**

### **Course Description**

This course aims to familiarize students with the fundamental principles of Tourism Economics from both macroeconomic and microeconomic perspectives. The objectives are to examine the economic impact and contribution of tourism at local, national, and international levels and to understand how various economic conditions influence the tourism sector. Students will develop analytical skills to make informed decisions within the tourism business environment while exploring the effects of tourism on global, national, and local economies and social structures.

### **Introduction**

Semester I introduces students to the foundational concepts of economics as they relate to the tourism industry. It focuses on the basic principles of microeconomics and macroeconomics, the significance of tourism economics, and the interrelationship between leisure and tourism. Students will explore how these concepts impact tourism demand, resources, and the functioning of markets.

### **Course Objectives**

- Understand the basic principles of microeconomics and macroeconomics as they apply to the tourism sector.
- Analyze the fundamental concepts of tourism economics and its historical development.
- Evaluate the relationship between leisure and tourism, and understand the determinants of tourism demand.
- Examine the resources involved in tourism and factors that influence tourism demand.
- Learn the pricing mechanisms and supply dynamics within the tourism industry.

### **Course Contents**

#### **1. INTRODUCTION**

- Scarcity, Choice, and Alternatives
- Microeconomics: Meaning, Scope, and Applications in Tourism Business
- Macroeconomics: Meaning, Scope, and Significance in Tourism Business Environment

## **2. BASIC CONCEPTS OF TOURISM ECONOMICS**

- Theory of Tourism Economics
- History of Tourism Economy Development
- Classification of Types of Tourism

## **3. LEISURE AND TOURISM**

- Meaning and Interrelationship Between Leisure and Tourism
- Determinants of Leisure and Tourism

## **4. RESOURCES IN TOURISM AND TOURISM DEMAND**

- The Tourism Industry and Its Products
- Travel and Tourism Resources
- Factors Influencing and Constraining Tourism Demand
- Levels of Choice in Travel and Tourism Demand
- Tourism Demand Forecasting: Meaning, Significance, and Survey Method

## **5. THEORY OF FIRM AND PRICING OF TOURISM PRODUCTS**

- Objectives of Tourism Enterprises
- Production Function: Meaning and Types
- Decision to Supply: Costs and Supply in Tourism
- Business Profit vs. Economic Profit
- Market Structures
- Price and Output Determination Under Perfect Competition and Monopoly
- Price Discrimination

- Role of Private and Public Organizations in Travel and Tourism Development

## **6. THE ECONOMICS OF TOURISM AT A NATIONAL, REGIONAL, AND INTERNATIONAL LEVEL**

- Tourism in a National and Regional Context
- Tourism in an International Context

## **7. TOURISM INVESTMENT AND FINANCE**

- Investment in Travel and Tourism
- Investment Appraisal in Public and Private Sectors
- Sources of Finance in Tourism
- Factors Influencing Travel and Tourism's Yield and Future

### **RECOMMENDED books**

- Bull, A. (1995). *The Economics of Travel and Tourism*. Harlow: Longman.
- Tribe, J. (2011) *The Economics of Recreation, Leisure and Tourism*, (4th ed.), Elsevier Ltd.
- Stabler, M. J., Papatheodorou, A. and Sinclair, M. T. (2010). *The Economics of Tourism*, (second edition), London: Routledge.
- Telfer, D. J. and Sharpley, R. (2016). *Tourism and Development in the Developing World*, Abingdon: Routledge.
- Vogel, H. (2001). *Travel Industry Economics*. New York: Cambridge University Press.
- Lundberg, D., Krishnamoorthy, M., and Stavenga, M.H. (1995). *Tourism Economics*. New York: John Wiley & Sons, Inc.
- Anna Rogova, (2021). *Tourism Economics*, LAMBERT: Academic Publishing.

## **ECO-610.27: Economics of Tourism**

### **Course Description**

This course aims to familiarize students with the fundamental principles of Tourism Economics from both macroeconomic and microeconomic perspectives. The objectives are to examine the economic impact and contribution of tourism at local, national, and international levels and to understand how various economic conditions influence the tourism sector. Students will develop analytical skills to make informed decisions within the tourism business environment while exploring the effects of tourism on global, national, and local economies and social structures.

### **Introduction**

Semester II builds on the foundational knowledge acquired in Semester I and delves deeper into the operational aspects of the tourism industry. It explores the various components of the tourism sector, including travel agencies, tour operators, the hotel industry, and the economic implications of tourism development. Students will also examine the challenges and opportunities facing the tourism economy and analyze the environmental issues related to tourism.

### **Course Objectives**

- Analyze the structure and components of the tourism industry, including labor productivity.
- Evaluate the roles and functions of travel agencies and tour operators in the tourism market.
- Understand the economic essence of tourism products and their manufacturing processes.
- Examine the characteristics and development of the hotel industry within the tourism sector.
- Assess the problems and prospects of tourism economy development and the impact of tourism on the national economy.
- Explore the economics of environmental issues related to tourism and their implications for sustainable development.

### **Course Contents**

#### **8. TOURISM INDUSTRY AND ITS COMPONENTS**

- Structure of the Tourism Industry
- Labour Productivity in Tourism

## **9. TRAVEL AGENCY AND TOUR OPERATOR ACTIVITIES**

- Role of Travel Agents and Tour Operators in the Tourism Market
- Mechanism of Interaction Between Travel Agents and Tour Operators

## **10. THE ECONOMIC ESSENCE OF TOURISM PRODUCTS**

- Properties of Tourist Services
- Manufacturing of Tourism Products

## **11. HOTEL INDUSTRY**

- History of Hotel Industry Development
- Characteristics of Hotel Products
- Structure of a Typical Hotel Enterprise
- Global Booking Systems in the Hotel Industry

## **12. PROBLEMS AND PROSPECTS OF TOURISM ECONOMY DEVELOPMENT**

- Factors Influencing International Tourism Development
- Role of International Tourism Organizations
- Impact of Digital Technologies and Innovations in Tourism

## **13. IMPACT OF TOURISM SECTOR IN NATIONAL ECONOMY**

- Tourism Satellite Account (TSA)
- Growth and Trends of the Tourism Sector
- Impact and Contribution of Tourism to the National Economy
- Understanding Tourism Multipliers

#### **14. THE ECONOMICS OF ENVIRONMENTAL ISSUES IN TOURISM**

- Global Environmental Issues and Their Impact on Tourism
- Microeconomic Analysis of Environmental Issues
- Valuation of Resources and Environmental Policies
- Appraisal of the Economics of Tourism

#### **RECOMMENDED BOOKS**

- Bull, A. (1995). *The Economics of Travel and Tourism*. Harlow: Longman.
- Tribe, J. (2011) *The Economics of Recreation, Leisure and Tourism*, (4th ed.), Elsevier Ltd.
- Stabler, M. J., Papatheodorou, A. and Sinclair, M. T. (2010). *The Economics of Tourism*, (second edition), London: Routledge.
- Telfer, D. J. and Sharpley, R. (2016). *Tourism and Development in the Developing World*, Abingdon: Routledge.
- Vogel, H. (2001). *Travel Industry Economics*. New York: Cambridge University Press.
- Lundberg, D., Krishnamoorthy, M., and Stavenga, M.H. (1995). *Tourism Economics*. New York: John Wiley & Sons, Inc.
- Anna Rogova, (2021). *Tourism Economics*, LAMBERT: Academic Publishing.

## **ECO-609.28: ANALYSIS OF PAKISTAN INDUSTRIES**

**Course Description:** This course provides an in-depth analysis of various industries in Pakistan, including agriculture, textile, food processing, pharmaceutical, automotive, and more. Students will explore the industrial sector's structure, policies, and development strategies, as well as the management practices, marketing strategies, and financial management techniques used in these industries. The course aims to equip students with a comprehensive understanding of Pakistan's industrial landscape and prepare them for careers in industry management, entrepreneurship, and policy-making.

### **Course Objectives:**

Upon completion of this course, students will be able to:

1. Define and explain the concept of industry and its significance in Pakistan's economy.
2. Describe the historical development of Pakistan's industries and their evolution over time.
3. Identify and analyze the impact of government policies, laws, and regulations on industries.
4. Understand the structure, challenges, and future prospects of key industries in Pakistan (textile, food processing, energy).
5. Recognize the role of industries in Pakistan's economic development and growth.
6. Develop critical thinking skills to analyze industry-related issues and challenges.

### **Course Contents:**

#### **1: Introduction to Pakistan Industries:**

- Overview of Pakistan's industrial sector
- Industrial policy and development

#### **2: Agriculture Industry:**

- Overview of agriculture industry in Pakistan
- Crop production, livestock, and fisheries

#### **3: Textile Industry:**

- Overview of textile industry in Pakistan
- Production processes and technology

#### **4: Food Processing Industry:**

- Overview of food processing industry in Pakistan
- Quality control and food safety

### **5: Pharmaceutical Industry:**

- Overview of pharmaceutical industry in Pakistan
- Drug development and regulatory affairs

### **6: Automotive Industry:**

- Overview of automotive industry in Pakistan
- Manufacturing processes and supply chain

### **7: Industrial Management and Entrepreneurship:**

- Industrial management practices
- Entrepreneurship in Pakistan's industrial sector

### **8: Export Processing Zone.**

- Characteristics and Benefits: Definition, purpose, types, key features (tax incentives, duty-free imports, streamlined customs), advantages (employment, infrastructure, economic growth).
- Implementation and Impact: History, evolution, EPZs in Pakistan, industries, challenges (environmental, labor, infrastructure), future directions, comparison with other countries.

### **9: Modern Technology.**

- Types and Features: Definition, categories (AI, IoT, robotics, blockchain, cloud computing), characteristics (speed, efficiency, automation), benefits (productivity, innovation, connectivity).
- Applications and Implications: Impact on industries (manufacturing, healthcare, finance), societal effects (job market, privacy, security), future trends, challenges (ethics, sustainability, cybersecurity), and global perspectives.

### **10: Shortage of Specialists.**

- Causes and Factors
- Entrepreneurship in Pakistan's industrial sector



**Recommended Books:**

1. Porter, M. E. (1980). Competitive strategy: Techniques for analyzing industries and competitors. Free Press.
2. Porter, M. E. (1990). Competitive advantage of nations. Free Press. ISBN: 0-684-84147-9.
3. Nasir, S. (2022). Pakistan's industrial development. Oxford University Press. ISBN: 978-019-071-236-2.
4. Nasir, M. S. (2022-2023). Economics of Pakistan. PETIWALA Book

**Useful Websites:**

- Securities & Exchange Commission of Pakistan: [www.secp.gov.pk](http://www.secp.gov.pk)
- State Bank of Pakistan: [www.sbp.org.pk](http://www.sbp.org.pk)
- Karachi Stock Exchange: [www.kse.com.pk](http://www.kse.com.pk)
- The Financial Daily: [www.thefinancialdaily.com](http://www.thefinancialdaily.com)
- Business Recorder: [www.brecorder.com](http://www.brecorder.com)
- Federal Board of Revenue: [www.fbr.gov.pk](http://www.fbr.gov.pk)
- Ministry of Finance, Pakistan: <http://finance.gov.pk/>
- Competition Commission of Pakistan: [www.mca.gov.pk/](http://www.mca.gov.pk/)
- Federal Bureau of Statistics: [www.fbs.gov.pk](http://www.fbs.gov.pk)

**Recommended Newspapers:**

- Business Recorder
- The Financial Daily
- Dawn (Business Section)

## **ECO-610.28: ANALYSIS OF PAKISTAN INDUSTRIES**

### **Course Description:**

This course provides an in-depth analysis of the industrial sector in Pakistan, focusing on the factors influencing industry structure, performance, and evolution. Students will explore how globalization, technology, and government policies impact industries. The course also covers the challenges faced by industries in Pakistan and the measures taken by the government to address these issues. Through this analysis, students will develop an understanding of the competitive environment and strategic decision-making in industries.

### **Course Objectives:**

- To analyze the structure and evolution of industries in Pakistan.
- To understand the impact of globalization, technology, and government policies on industries.
- To evaluate the challenges faced by Pakistan's industries and the effectiveness of government interventions.
- To apply economic frameworks to assess industry competitiveness and strategy.

### **Course Contents:**

#### **1. Industrial Relations and Labor Laws:**

- a. Industrial relations and labor laws in Pakistan
- b. Conflict resolution and negotiation

#### **2. Government Interventions:**

- a) Overview of initiatives by the Pakistan Industrial Development Corporation (PIDC) and Industrial Development Bank of Pakistan (IDBP).
- b) Role of Pakistan Industrial Credit and Investment Corporation, industrial research, and training programs.

#### **3. Industrial Marketing and Sales:**

- a. Industrial marketing and sales strategies
- b. Market research and analysis

#### **4. Industrial Finance and Accounting:**

- a. Industrial finance and accounting practices
- b. Financial management and reporting

#### **5. Industrial Engineering and Quality Control:**

- a. Industrial engineering principles

- b. Quality control and assurance

**6. Environmental Management and Sustainability:**

- a. Environmental management practices
- b. Sustainability in Pakistan's industrial sector

**7. Agriculture Value Chain Management:**

- a. Agriculture value chain analysis
- b. Supply chain management in agriculture

**8. Research Project:**

- a) Applied research project in Pakistan industries
- b) Presentation and defense

**Recommended Books:**

1. Porter, M. E. (1980). Competitive strategy: Techniques for analyzing industries and competitors. Free Press.
2. Porter, M. E. (1990). Competitive advantage of nations. Free Press. ISBN: 0-684-84147-9.
3. Vietor, R. H. K. (2007). How countries compete: Strategy, structure and government in the global economy. Harvard Business School Press.
4. Dyck, A. (1997). Country analysis: A framework to identify and evaluate the national business environment (Harvard Business Review Cases).
5. Nasir, S. (2020). Industrial management in Pakistan. Oxford University Press. ISBN: 978-019-071-235-5.

**Useful Websites:**

- Securities & Exchange Commission of Pakistan: [www.secp.gov.pk](http://www.secp.gov.pk)
- State Bank of Pakistan: [www.sbp.org.pk](http://www.sbp.org.pk)
- Karachi Stock Exchange: [www.kse.com.pk](http://www.kse.com.pk)
- The Financial Daily: [www.thefinancialdaily.com](http://www.thefinancialdaily.com)
- Business Recorder: [www.brecorder.com](http://www.brecorder.com)
- Federal Board of Revenue: [www.fbr.gov.pk](http://www.fbr.gov.pk)
- Ministry of Finance, Pakistan: <http://finance.gov.pk/>
- Competition Commission of Pakistan: [www.mca.gov.pk/](http://www.mca.gov.pk/)
- Federal Bureau of Statistics: [www.fbs.gov.pk](http://www.fbs.gov.pk)

**Recommended Newspapers:**

- Business Recorder
- The Financial Daily
- Dawn (Business Section)
- Express Tribune

## **ECO-609.29: Entrepreneurship: Theory and Application**

**Course Description:** This course introduces students to the principles and practices of entrepreneurship, including the entrepreneurial mindset, idea generation, business planning, and venture launch.

### **Course Objectives:**

Upon completion of this course, students will be able to:

1. Define and explain the concept of entrepreneurship and its importance in economic development.
2. Identify and analyze personal entrepreneurial traits, skills, and motivations.
3. Understand the entrepreneurial process, including opportunity recognition and idea generation.
4. Develop a basic business plan, including market analysis and financial projections.
5. Recognize the role of innovation, risk-taking, and adaptability in entrepreneurial ventures.
6. Apply critical thinking and problem-solving skills to entrepreneurial challenges.

### **Course Content:**

#### **1. Introduction to Entrepreneurship:**

- Definition and scope of entrepreneurship
- Types of entrepreneurs (small business, scalable startup, social entrepreneur)
- Entrepreneurial mindset and characteristics

#### **2. Idea Generation and Opportunity Recognition:**

- Sources of entrepreneurial ideas
- Market research and validation
- Identifying and evaluating opportunities

#### **3. Business Planning:**

- Business model canvas
- Writing a business plan (executive summary, market analysis, financial projections)
- Pitching and presenting your plan

#### **4. Entrepreneurial Finance:**

- Funding options (bootstrapping, crowd funding, angel investors, venture capital)
- Financial statements and projections
- Cash flow management

#### **5. Entrepreneurial Marketing and Branding:**

- Building a strong brand identity

- Digital marketing strategies (social media, SEO, content marketing)
- Measuring marketing effectiveness

**6. Entrepreneurial Leadership and Team Management:**

- Building and managing a team
- Leadership styles and characteristics
- Conflict resolution and negotiation

**7. Social Entrepreneurship and Sustainability:**

- Social entrepreneurship and impact investing
- Sustainable business practices
- Corporate social responsibility

**Recommended Textbooks:**

1. "Entrepreneurship: Successfully Launching New Ventures" by Bruce R. Barringer and Duane Ireland, (2019), Publisher Pearson Education, ISBN: 978-013-473749-4.
2. "The Lean Startup" by Eric Ries, (2011), Publisher: Crown Business ISBN: 978-030-788-789-4.
3. "Business Model Generation" by Alexander Osterwalder and Yves Pigneur, (2010), Publisher: John Wiley & Sons, ISBN: 978-047-087-641-1.
4. "Entrepreneurial Marketing" by Gerald E. Hills and Robert E. Hultman, (2017), Publisher: Routledge, ISBN: 978-113-820-033-8.
5. "Global Entrepreneurship" by Robert D. Hisrich and Claudine Kearney, (2018), Publisher: McGraw-Hill Education, ISBN: 978-007-352-743-5.
6. "Introduction to Entrepreneurship", Donald F. Kuratko, South Western College, 8th Edition, 2009.
7. "Technology Ventures: From Ideas to Enterprise", Thomas H. Byers, Richard C. Dorf and Andrew J. Nelson, McGraw-Hill, 3rd Edition, 2010.

## **ECO-610.29: Entrepreneurship: Theory and Application**

**Course Objective:** Builds upon the foundational knowledge acquired in Semester 1, delving deeper into specialized subjects. Students will explore advanced concepts in their chosen major, such as data analysis and interpretation, strategic marketing, software development methodologies, or literary theory and criticism. Courses may include Statistics and Research Methods, Financial Management, Web Development, and Modernism and Postmodernism in Literature. Additionally, students will refine their critical thinking, problem-solving, and communication skills through case studies, group projects, and presentations. Electives and workshops will also be offered to enhance career readiness and provide opportunities for interdisciplinary exploration, culminating in a semester-long project that demonstrates mastery of skills and knowledge.

### **Course Objectives:**

Upon completion of this course, students will be able to:

1. Develop and refine a comprehensive business plan, including marketing, operations, and financial strategies.
2. Analyze and manage entrepreneurial finance, including funding options and cash flow management.
3. Understand entrepreneurial marketing, including branding, segmentation, and positioning.
4. Develop leadership and team management skills for entrepreneurial ventures.
5. Identify and mitigate risks associated with entrepreneurial endeavors.
6. Apply entrepreneurial principles to scaling and growing a business.

### **Course Content:**

#### **1. Launching and Growing Your Venture:**

- Launching your venture
- Scaling and growth strategies
- Overcoming obstacles and challenges

#### **2. Managing Risk and Failure:**

- Identifying and mitigating risks
- Coping with failure and learning from mistakes
- Pivoting and adapting to change

#### **3. Entrepreneurial Networks and Partnerships:**

- Building strategic partnerships
- Leveraging networks and mentorship
- Collaborative entrepreneurship

#### **4. Global Entrepreneurship and Cross-Cultural Management:**

- Entrepreneurship in diverse cultural contexts
- Global market entry strategies
- Managing cross-cultural teams

#### **5. Family Entrepreneurship and Succession Planning:**

- Family business dynamics and challenges
- Succession planning and leadership transition
- Managing family and business relationships

#### **6. Entrepreneurship and Innovation:**

- Fostering innovation and creativity
- Design thinking and ideation
- Bringing new products and services to market

#### **7. Capstone Project:**

- Applying entrepreneurial skills and knowledge
- Developing a comprehensive business plan
- Presenting and defending the plan

#### **Recommended Textbooks:**

1. Barringer, B. R., & Ireland, D. (2019). \*Entrepreneurship: Successfully launching new ventures\*. Pearson Education. ISBN: 978-013-473749-4.
2. Ries, E. (2011). \*The lean startup\*. Crown Business. ISBN: 978-030-788-789-4.
3. Osterwalder, A., & Pigneur, Y. (2010). \*Business model generation\*. John Wiley & Sons. ISBN: 978-047-087-641-1.
4. Hills, G. E., & Hultman, R. E. (2017). \*Entrepreneurial marketing\*. Routledge. ISBN: 978-113-820-033-8.
5. Hisrich, R. D., & Kearney, C. (2018). \*Global entrepreneurship\*. McGraw-Hill Education. ISBN: 978-007-352-743-5.
6. Kuratko, D. F. (2009). \*Introduction to entrepreneurship\* (8th ed.). South Western College.
7. Khan, M. (2017). \*Entrepreneurship in Pakistan\*. Pakistan Institute of Development Economics (PIDE). ISBN: 978-969-875-947-5.
8. Sherjan, F. (2019). \*The entrepreneur's journey\*. Paramount Publishing Enterprise. ISBN: 978-969-474-257-8.
9. Ara, J. (2018). \*Startups in Pakistan\*. Oxford University Press Pakistan. ISBN: 978-019-071-236-2.
10. Qureshi, S. (2015). \*Entrepreneurship: A Pakistani perspective\*. Sang-e-Meel Publications. ISBN: 978-969-352-047-3.
11. Chaudhry, I. (2016). \*Innovation and entrepreneurship in Pakistan\*. Pakistan Scientific and Technological Information Centre (PASTIC). ISBN: 978-969-9233-12-4.



## **ECO-609.30: Economics of Cooperative Societies**

### **Course Description**

The first semester introduces students to the foundational concepts of cooperative societies and their role in economic development. This part of the course focuses on the origins, principles, and structures of cooperative organizations, exploring how they differ from other forms of business and their potential for promoting inclusive growth. Students will analyze the governance, decision-making processes, and economic functions of cooperatives in various sectors such as agriculture, banking, and consumer goods.

### **Course Objectives**

By the end of Semester I, students will:

1. Understand the basic principles and history of cooperative societies.
2. Analyze the governance and operational structure of cooperatives.
3. Identify the role of cooperative societies in promoting economic development and social welfare.
4. Differentiate between cooperatives and other forms of business organizations.
5. Explore the contributions of cooperatives to key sectors such as agriculture and retail.

### **Course Contents**

#### **1. Introduction to Cooperative Societies**

Definition and concepts of cooperatives

History and evolution of cooperative movements globally

Economic rationale for cooperatives

#### **2. Principles and Values of Cooperatives**

The Rochdale Principles of Cooperatives

Ethical values: Self-help, democracy, equality, equity, and solidarity

Cooperative principles in practice: Voluntary membership, democratic member control

#### **3. Types of Cooperatives**

Consumer cooperatives

Producer cooperatives

Worker cooperatives

Agricultural and financial cooperatives

#### **4. Governance and Decision Making in Cooperatives**

Cooperative governance models

Member participation and democratic control

Decision-making processes in cooperatives

#### **5. Cooperative Societies in Economic Development**

Role of cooperatives in poverty alleviation

Cooperatives in rural and agricultural development

Cooperatives as tools for inclusive economic growth

#### **6. Cooperative Societies and Social Welfare**

Contributions of cooperatives to social and economic welfare

Cooperative enterprises and community development

Case studies of successful cooperative movements

#### **Recommended Books**

1. Birchall, J. (2013). The potential of cooperatives during the current recession: Theorizing comparative advantage. University of Stirling.
2. Birchall, J. (2010). People centered businesses: Cooperatives, mutuals and the idea of membership. Palgrave Macmillan.
3. Bibby, A., & Shaw, L. (2005). Making a difference: Cooperative solutions to global poverty. Cooperative College.
4. Zamagni, S., & Zamagni, V. (2010). Cooperative enterprise: Facing the challenge of globalization. Edward Elgar Publishing.
5. Hagedorn, K. (2014). Cooperatives: A conceptual framework. *European Review of Agricultural Economics*, 41(3), 465–487.
6. Mazzarol, T., & Mamouni Limnios, E. (2014). Cooperatives in the new millennium: Sustainability in the context of globalization. Edward Elgar Publishing.

## **ECO-610.30: Economics of Cooperative Societies**

### **Course Description**

The second semester builds on the foundational knowledge from the first semester, focusing on the financial and economic sustainability of cooperative societies. This part of the course emphasizes the economic performance, financial management, and legal frameworks governing cooperatives. Students will explore the challenges faced by cooperatives in a globalized economy, along with strategies to enhance their resilience and competitiveness. The course also covers the role of government policy and international cooperative alliances in fostering cooperative growth.

### **Course Objectives**

By the end of Semester II, students will:

1. Understand the financial and economic performance of cooperative societies.
2. Analyze the challenges and limitations faced by cooperatives in modern economies.
3. Evaluate the role of government policies and international cooperative alliances.
4. Explore strategies for enhancing the competitiveness and sustainability of cooperatives.
5. Develop knowledge of the legal and regulatory frameworks governing cooperative societies.

### **Course Contents**

#### **1. Economic Performance of Cooperatives**

Measuring the economic impact of cooperatives

Efficiency and profitability of cooperatives compared to other enterprises

The cooperative advantage and economies of scale

#### **2. Financial Management in Cooperatives**

Sources of financing for cooperatives

Financial performance and risk management in cooperatives

Capital formation and member equity

#### **3. Legal and Regulatory Framework for Cooperatives**

National and international cooperative laws and regulations

Role of government in promoting cooperatives

Regulatory challenges and compliance in cooperative sectors

#### **4. Challenges Facing Cooperative Societies**

Globalization and its impact on cooperatives

Market competition and innovation in cooperatives

Go

#### **5. Strategies for Enhancing Cooperative Competitiveness**

Strategic planning and innovation in cooperatives

Networking and forming cooperative alliances

Role of technology in the growth of cooperatives

#### **6. International Cooperative Movements and Alliances**

Global cooperative organizations (e.g., ICA, ILO)

Cross border cooperative movements and their economic impact

The future of cooperative societies in a globalized economy

#### **Recommended Books**

1. Birchall, J. (2013). The potential of cooperatives during the current recession: Theorizing comparative advantage. University of Stirling.
2. Birchall, J. (2010). People centered businesses: Cooperatives, mutuals and the idea of membership. Palgrave Macmillan.
3. Bibby, A., & Shaw, L. (2005). Making a difference: Cooperative solutions to global poverty. Cooperative College.
4. Zamagni, S., & Zamagni, V. (2010). Cooperative enterprise: Facing the challenge of globalization. Edward Elgar Publishing.
5. Hagedorn, K. (2014). Cooperatives: A conceptual framework. *European Review of Agricultural Economics*, 41(3), 465–487.
6. Mazzarol, T., & Mamouni Limnios, E. (2014). Cooperatives in the new millennium: Sustainability in the context of globalization. Edward Elgar Publishing.

## **ECO 609.31: Real Estate Economics**

### **Course Description**

The first semester of Real Estate Economics focuses on the foundational microeconomic principles that govern real estate markets. This course examines the relationships between land and housing markets, urban spatial development, and the influence of government policies. Students will explore how economic development impacts real estate trends, how prices are set in real estate markets, and the critical role of location in determining property values. Through theoretical and practical insights, students will gain a comprehensive understanding of how the real estate sector operates within the national and global economy.

### **Course Objectives**

By the end of Semester I, students will be able to:

1. Define key concepts in real estate economics and understand the subsectors within the real estate industry.
2. Analyze the effects of location, land use, and public policy on real estate values.
3. Evaluate the dynamics of urban growth and its impact on housing markets.
4. Understand supply and demand dynamics in real estate markets and how these influence property prices.
5. Assess the role of real estate within the wider economy and its contribution to economic growth.
6. Identify key drivers of real estate investment and valuation, including government regulations and interest rates.
7. Examine speculative bubbles in real estate markets and their impact on economic stability.
8. Understand the role of real estate finance, including mortgages, interest rates, and the role of FDI.
9. Explore the fundamentals of urban economics and the influence of city planning on real estate markets.

### **Course Contents**

#### **1. Introduction to Real Estate Economics**

Overview of the Real Estate Sector: Capital and Property Markets

Comparative Statics: Predicting Changes in Real Estate Markets

Real Estate Life Cycles and Business Cycles

The Importance of Studying Real Estate Economics

## **2. Real Estate Subsectors (Submarkets)**

Residential, Commercial, Industrial, and Agricultural Real Estate

Characteristics of Real Estate Investment (Inelasticity, Durability, Location Specific, Capital Intensive)

Market Structures: Perfect Competition, Monopolistic Competition, and Imperfect Markets

Investment Decisions in Different Real Estate Submarkets

## **3. The Role of Location in Real Estate**

Location Theory and Central Place Theory

The Indifference Principle in Real Estate Location and Rents

Submarkets and Land Use Segregation

Authentic vs. Derived Demand for Real Estate

Urban Growth, Rents, and Prices: Highest Use for Residential Development

Location, Land Use, and Density in Real Estate Markets

## **4. Residential Land Markets and Development**

Urban Growth and Its Impact on Housing Markets

Demand and Supply Dynamics in Housing Markets

The Role of Land Use and Zoning Regulations in Real Estate

Homeownership, Labor Mobility, and Housing Prices

The Housing Wealth Effect: Impact on Consumption and Aggregate Demand

Public Housing and Affordable Housing Policies

## **5. Industrial and Commercial Real Estate Markets**

Industrial Location and Land Use: Historical Development and Changing Technology

Transportation, Shipping Costs, and the Role of Industrial Clustering

Commercial Land Markets: Theories of Multiple Centered Cities

Office Markets, Labor Markets, and the Role of Agglomeration in Commercial Real Estate

Tax and Public Policy Effects on Industrial and Commercial Land Use

## **6. Retail Development and Spatial Competition**

Retail Travel Patterns and Distribution of Stores

Spatial Competition: Pricing and Store Clustering

Shopping Centers and Retail Market Development

The Role of Urban Planning in Retail Development

## **7. Real Estate in the Wider Economy**

Real Estate in National Accounts: GDP Contribution

Real Estate Investment and Economic Growth: The Multiplier Effect

The Impact of Real Estate Prices on Consumption and Investment Decisions

The Role of Real Estate Finance: Mortgages, Interest Rates, and Credit Conditions

Real Estate Investment Trusts (REITs) and Securitization in Real Estate Markets

The Role of Foreign Direct Investment (FDI) in Real Estate Development

## **8. Government Policies and Real Estate**

Zoning Laws, Building Codes, and the Impact of Tax Policies on Real Estate Markets

Public Housing and Land Use Regulations: Effects on Housing Affordability and Supply

The Role of Government Subsidies in Urban Development

Land Markets and Public Infrastructure Investment

## **Recommended Books**

1. Brueckner, J. K. (2011). Lectures in Urban Economics. MIT Press.
2. DiPasquale, D., & Wheaton, W. C. (1996). Urban Economics and Real Estate Markets. Prentice Hall.
3. Pirounakis, N. G. (2013). Real Estate Economics: A Point-to-point Handbook (1st ed.). Routledge.
4. Jowsey, E. (2011). Real Estate Economics. Palgrave Macmillan.
5. Brueggeman, W. B., & Fisher, J. D. (2010). Real Estate Finance and Investments (14th ed.). McGraw-Hill Education.

## **ECO-610.31: Real Estate Economics**

### **Course Description:**

This advanced course delves deeper into real estate economics with a strong focus on both macroeconomic factors and the unique challenges of real estate markets in Pakistan. Students will explore price setting mechanisms, speculative bubbles, government policy impacts, urban development, and the role of real estate in economic growth. Topics such as real estate finance, securitization, REITs (Real Estate Investment Trusts), and sustainability will be covered in detail. Time series analysis techniques will be introduced to assess real estate trends and cycles, while regional growth dynamics will be evaluated through case studies, particularly in the context of Pakistan. The course emphasizes real world applications through the analysis of housing and nonresidential property markets.

### **Course Objectives:**

By the end of this semester, students will be able to:

1. Analyze the macroeconomic factors influencing housing and nonresidential real estate markets.
2. Understand how real estate markets adjust to demand and supply changes and evaluate price setting mechanisms.
3. Evaluate the formation of speculative bubbles and their impact on real estate markets.
4. Assess the impact of government policies such as zoning laws, taxation, and land use regulations on real estate markets.
5. Apply time series analysis techniques to assess real estate market trends and cycles.
6. Analyze the real estate sector in Pakistan, focusing on challenges such as regulatory issues, informal markets, and infrastructure development.
7. Evaluate the dynamics of real estate finance, including REITs, mortgage backed securities, and capital markets.
8. Explore regional growth and its impact on real estate values and development, particularly in Pakistan.
9. Analyze urbanization and infrastructure investment's effect on real estate in emerging economies.
10. Understand the financial implications of real estate as an investment asset, including riskreturn characteristics and market efficiency.



## **Course Contents:**

### **1. Macroeconomic Analysis of Real Estate Markets:**

Housing and nonresidential property dynamics.

Demographic and economic influences on housing demand.

Vacancy, sales, and housing quality demand.

The role of mortgages, housing appreciation, and cost of ownership.

Operation of nonresidential markets: vacancy rates, absorption, and market frictions.

Leasing structures, term analysis, and long term space usage trends.

### **2. Real Estate Demand and Supply Dynamics:**

Price adjustments and market equilibrium in real estate.

Elasticity in real estate demand and supply: short term vs. long term effects.

Speculative bubbles: causes, consequences, and case studies.

Assessing imbalances: overbuilding, vacancy rates, and foreclosures.

Real estate cycles: boom, bust, and recovery phases.

### **3. Government Policy and Real Estate Markets:**

Impact of zoning laws, tax incentives, and land use regulations on real estate.

The role of government in Pakistan's real estate: regulatory policies, public housing, and taxation.

Case studies from Pakistan's real estate sector, including developments like Bahria Town and DHA.

### **4. Time Series Analysis of Real Estate Markets:**

Time series properties of housing and commercial space markets.

Stock flow theory and real estate cycles.

Market efficiency, expectations, and the role of information in real estate markets.

Techniques for forecasting real estate trends.

### **5. Regional Growth and Real Estate Markets:**

Determinants of metropolitan growth and its impact on real estate.

Economic models analyzing urban and regional growth dynamics.

The role of export demand, industrial development, migration, and demographic factors on real estate prices.

Case studies on regional growth trends in Pakistan.

## **6. Real Estate Finance and Investment:**

Real estate as a financial asset class.

Risk return characteristics of real estate investments.

Real estate market efficiency and information flow.

Introduction to REITs and their role in diversifying real estate investments.

Securitization of real estate: mortgage backed securities (MBS) and collateralized mortgage obligations (CMOs).

## **7. Advanced Topics in Real Estate Economics:**

Real estate valuation techniques: Comparative Market Analysis (CMA), Income Capitalization Approach, and Cost Approach.

Sustainability in real estate: LEED certification, energy efficient buildings, and smart cities.

Urbanization and its impact on real estate in emerging economies.

## **8. Real Estate in Pakistan:**

Challenges in Pakistan's real estate sector: informal practices, lack of transparency, legal disputes.

The role of foreign investment in Pakistan's real estate: opportunities and barriers.

Infrastructure and urban development's influence on real estate prices and investment in Pakistan.

Housing shortages and affordable housing initiatives in Pakistan.

## **Recommended Books:**

1. Pirounakis, N. G. (2013). Real Estate Economics: A Point-to-point Handbook (1st ed.). Routledge.

2. Jowsey, E. (2011). Real Estate Economics. Palgrave Macmillan.

3. Brueggeman, W. B., & Fisher, J. D. (2010). Real Estate Finance and Investments (14th ed.). McGraw-Hill Education.

4. Ahmad, M. U., & Anwar, M. S. (2020). *The Real Estate Sector in Pakistan: Issues and Prospects*. Pakistan Institute of Development Economics (PIDE).
5. Geltner, D., Miller, N. G., Clayton, J., & Eichholtz, P. (2014). *Commercial Real Estate Analysis and Investments* (3rd ed.). Oncourse Learning.
6. Malpezzi, S. (2003). *The Real Estate Market: Prices and Cycles*. Urban Institute Press.
7. Glaeser, E. L., & Gyourko, J. (2018). *Rethinking Federal Housing Policy: How to Make Housing Plentiful and Affordable*. AEI Press.

## **ECO-609.32: Islamic Banking and Finance**

### **Course Description**

This course provides an in-depth exploration of the principles, mechanisms, and operations of Islamic banking and finance. Students will learn about the unique foundations of the Islamic financial system, including its prohibition of interest (riba), risk sharing frameworks, and ethical principles that differentiate it from conventional finance. The course covers the development and evolution of Islamic finance and its application through Islamic financial contracts.

### **Course Objectives**

By the end of this semester, students will:

1. Understand the foundational principles of Islamic economics and finance.
2. Analyze the ethical, moral, and legal frameworks guiding Islamic finance.
3. Learn the key Islamic financial contracts and their applications.
4. Assess the development and operational mechanisms of Islamic banks globally.
5. Evaluate the risks and challenges faced by Islamic financial institutions.

### **Course Contents**

#### **1. Introduction to Islamic Economics and Finance**

Role of Shariah in Finance

Key prohibitions: Riba (interest), Gharar (excessive uncertainty), and Maysir (gambling)

Ethics and Morality in Islamic Finance

#### **2. Development and Evolution of Islamic Banking**

Historical evolution of Islamic finance

Emergence of Islamic banks (1970s onwards)

Role of Islamic Development Bank

#### **3. Principles of Islamic Finance**

Prohibition of Riba (Interest)

Gharar (Uncertainty) and Maysir (Gambling) in financial transactions

Risk sharing vs. risk transfer in Islamic finance

#### **4. Islamic Financial Contracts and Instruments (Part I)**

Mudarabah: Profit-sharing contract

Musharakah: Joint partnership contract

Applications in corporate financing and investment projects

#### **5. Islamic Financial Contracts and Instruments (Part II)**

Murabaha: Cost-plus financing

Ijara: Leasing in asset financing

Istisna: Project based financing

#### **6. Islamic Banking Models and Operations**

Islamic banking models: Two-tier Mudarabah, Wakalah, Musharakah

Profit and Loss Sharing (PLS)

Operational mechanisms in Islamic banks

#### **7. Risk Management in Islamic Banking**

Types of risks: Shariah noncompliance, operational risk, liquidity risk

Risk mitigation strategies: Shariah audits, capital adequacy

#### **Recommended Books for Semester I**

1. Usmani, M. T. (n.d.). An Introduction to Islamic Finance. Maktaba Ma'ariful Quran.
2. Ayub, M. (2007). Understanding Islamic Finance. Wiley.
3. ElGamal, M. A. (2006). Islamic Finance: Law, Economics, and Practice. Cambridge University Press.
4. Iqbal, Z., & Mirakhor, A. (2011). An Introduction to Islamic Finance: Theory and Practice. Wiley.
5. Hassan, K., & Lewis, M. (2009). Handbook of Islamic Banking. Edward Elgar Publishing.
6. Visser, H. (2013). Islamic Finance: Principles and Practice. Edward Elgar Publishing.

## **ECO-610.32: Islamic Banking and Finance**

### **Course Description**

This semester delves into advanced topics of Islamic banking and finance, focusing on the implementation of Islamic financial products and services. Students will explore the concepts of Sukuk (Islamic bonds), Takaful (Islamic insurance), Islamic microfinance, and the roles of regulatory bodies in overseeing Islamic financial institutions. Additionally, the course covers contemporary issues and global trends in Islamic finance.

### **Course Objectives**

By the end of this semester, students will:

1. Understand the structure and functioning of Sukuk and Takaful.
2. Analyze the role of Islamic financial institutions and regulatory bodies.
3. Evaluate the role of Islamic finance in poverty alleviation through microfinance.
4. Examine global trends and contemporary issues in Islamic finance.
5. Develop research skills through a project focusing on Islamic finance.

### **Course Contents**

#### **1. Sukuk (Islamic Bonds)**

Types of Sukuk: Asset backed, Asset based

Structuring Sukuk: Mudarabah, Musharakah, Ijara Sukuk

Role of Sukuk in infrastructure financing

#### **2. Takaful (Islamic Insurance)**

Principles of Takaful: Mutual cooperation and risk sharing

Types of Takaful: General Takaful, Family Takaful

Regulatory framework for Takaful operators

#### **3. Islamic Financial Institutions and Regulatory Bodies**

Role of Shariah Supervisory Boards (SSB)

AAOIFI (Accounting and Auditing Organization for Islamic Financial Institutions)

Islamic Financial Services Board (IFSB)

#### **4. Islamic Microfinance**

Concepts of Qardal Hasan and Mudarabah in microfinance

Role of Islamic microfinance in poverty alleviation

Case Studies: Akhuwat Foundation (Pakistan), Amanah Ikhtiar (Malaysia)

#### **5. Contemporary Issues in Islamic Finance**

Harmonization of Shariah standards globally

Impact of globalization on Islamic financial markets

Challenges of innovation in Islamic finance (Fintech and Cryptocurrency)

#### **6. Global Trends and Future of Islamic Banking**

Global adoption of Islamic finance in non-Muslim majority countries

Emerging markets for Islamic banking in Africa and Central Asia

Future challenges and opportunities

#### **7. Final Research Project**

Analyze the growth of Islamic banking in a specific country/region

Compare its performance with conventional banking

#### **Recommended Books for Semester II**

1. Usmani, M. T. (2002). *An Introduction to Islamic Finance*. Idaratul Ma'arif.
2. Iqbal, M., & Mirakhor, A. (2007). *An Introduction to Islamic Finance: Theory and Practice*. Wiley.
3. Ayub, M. (2007). *Understanding Islamic Finance*. Wiley.
4. ElGamal, M. A. (2006). *Islamic Finance: Law, Economics, and Practice*. Cambridge University Press.
5. Siddiqi, M. N. (2006). *Islamic Banking and Finance in Theory and Practice: A Survey of the State of the Art*. Islamic Economic Studies.
6. Alkhamees, A. A. (2017). *Islamic Financial Contracts: Principles and Applications*. Edward Elgar Publishing.

## **ECO 609.33 and ECO 610.33: Thesis**

### **Course Description:**

This two-semester course involves the completion of a research thesis that demonstrates original investigation, analysis, and interpretation. The primary aim is to encourage students to engage in independent economic research, fostering skills that are valuable for both future academic pursuits and professional careers. Unlike standard coursework, this research-driven activity is relatively unstructured, requiring students to self-pace and monitor their progress.

### **Course Objectives:**

Upon successful completion of this thesis, students will be able to:

- Demonstrate in-depth knowledge in their chosen research area.
- Formulate viable research questions and initiate independent research.
- Design, conduct, and report sustained and original research.
- Critically evaluate and synthesize scholarly literature.
- Present research findings in a well-structured thesis that adheres to academic standards.
- Critique existing literature effectively.

### **Course Contents:**

- Research Proposal: Preparation of a short proposal outlining the research idea.
- Research Process: Development of the research question, literature review, and project structure in consultation with the supervisor.
- Draft Submissions: Submission of written drafts for each section with critical assessment from the supervisor.
- Final Submission: Revision of drafts based on feedback, culminating in the submission of the final thesis.
- Workshops and Seminars: Active participation in thesis workshops and seminars throughout the semester.

### **Recommended Books:**

- Specific Recommended books may not be applicable to this course, as readings will vary based on the research topic chosen by each student. However, students are expected to engage with a range of academic journals, books, and other resources relevant to their research.