



University of Chitral
BECOME WHAT YOU WANT TO BE

یونیورسٹی آف چترال

Scheme of Studies BS Economics Fall 2025

Additional Director Academics
University of Chitral

Department of Economics
University of Chitral



General Requirements for the Degree

Nomenclature

Bachelor of Studies in Economics

Eligibility Criteria

Students with degree/ certificate of F.Sc./ F. A/ D. Com/ A-levels/ DAE or equivalent intermediate (12 years) qualification with at least 2nd division (45% marks) from a recognized institute are eligible to apply.

Duration

The minimum duration for completion of BS degree is four years and maximum period of seven years to complete BS degree requirements.

Pathway for the Associate Degree Holders in Economics

- The candidates with AD Economics are eligible for admission in 5th Semester of BS Economics Programs. Such students shall complete the deficiency courses of General Education (if any) during 5th to 8th Semester.
- The candidates who acquired AD in Economics prior to the admission criteria (as stated above) are also eligible for admission in 5th Semester of BS Economics Programs. Such students shall also complete the deficiency courses of General Education (if any) during 5th to 8th Semester.
- The minimum eligibility for admission in the fifth semester in this case is 2.0 CGPA out of 4 in the prior qualification i.e., conventional two-year BA/BSc degree programs.
- Admission in 5th Semester is subject to the availability of seats.

Pathway for Conventional Two-Year BA Degree Holders

- Students having completed conventional two-year BA/BSc are allowed to be admitted in the fifth semester of the BS program, in which case students shall be required to complete deficiency courses through a bridging semester before commencement of the fifth semester as determined by the department.
- The minimum eligibility for admission in the fifth semester in this case is 45% cumulative score in the prior qualification i.e., conventional two-year BA/BSc degree programs.
- Admission in 5th Semester is subject to the availability of seats.



Exit with Associate Degree

The students after successful completion of 04 semesters in BS Economics Programs may exit with Associate Degree in Economics subject to completion of all requirements for the award of associate degree, i.e., Credit Hours, CGPA, and compulsory courses.

Degree Completion Requirements

To become eligible for award of BS degree, a student must satisfy the following requirements:

- a) Must have studied and passed the prescribed courses, totaling at least 130 credit hours.
- b) Must have earned CGPA (Cumulative Grade Point Average) of at least 2.0 on a scale of 4.0.

The students after successful completion of 04 semesters in BS Economics Program may exit with **Associate Degree in Economics** subject to completion of all requirements for the award of associate degree, i.e., Credit Hours, CGPA, and compulsory/major courses.

- Meeting of the Faculty of the **Department of Economics, UoCh affiliated colleges/institutions** will be held before the commencement of each semester to select general education courses from the provided courses. The decision of the faculty will be duly notified to the concerned quarters.
- The offered general education course/s shall be offered at least twice in the same semester so if a student fails the subject, they may reappear in the failed subject/s.

Program Structure

PROGRAM-WISE SCHEME OF STUDIES

Domain	Credit Hours	General Education Courses	Major Courses	Interdisciplinary Courses	Internship/Field Experience/Capstone Project
Total Cr Hr	132	35	78	13	06



Semester	General Education Courses CrHr	Major CrHr	Allied/Interdisciplinary Courses CrHr	Internship/Field Experience/Capstone Project CrHr	Total CrHr
1 st	15	03	-	-	18
2 nd	11	06	-	-	17
3 rd	09	09	-	-	18
4 th	-	12	04	-	16
5 th	-	15	03	-	18
6 th	-	15	03	-	18
7 th	-	09	03	03	15
8 th	-	09	-	03	12
8 Semesters Total Cr.hr	35	78	13	06	132



Semester-wise Breakup

1st Semester (Credit Hours)		
Course Code	Course Title	Credit Hours
ECO 111	Principles of Microeconomics	3(3-0)
GE 111	Quantitative Reasoning-I	3(3-0)
GE 112	Functional English	3(3-0)
GE 113	Applications of Information and Communication Technologies	3(2-1)
GE 114	Natural Sciences	3(3-0)
Anyone from the following		
GE 115	Islamic Studies	2 (2-0)
GE 116	Ethics	2 (2-0)
Anyone from the following		
GE 117	Fehm-e-Quran-I	1(0-1)
GE 118	Ethics: A General Introduction	1(0-1)
Total Credit Hours		18(16-2)

2nd Semester (Credit Hours)		
Course Code	Course Title	Credit Hours
ECO 121	Principles of Macroeconomics	3(3-0)
ECO 122	Issues in Pakistan Economy	3(3-0)
ECO 123	Environmental Economics	3(3-0)
GE 121	Quantitative Reasoning-II	3(3-0)
GE 122	Expository Writing	3(3-0)
GE 123	Social Sciences	2(2-0)
Anyone from the following		
GE 124	Fehm-e-Quran-II	1(0-1)
GE 125	Cyber Ethics	1(0-1)
Total Credit Hours		18(18-1)



3rd Semester (Credit Hours)		
Course Code	Course Title	Credit Hours
ECO 231	Intermediate Microeconomics	3(3-0)
ECO 232	Mathematics	3(3-0)
ECO 233	History of Economic Thought	3(3-0)
GE 231	Pakistan Studies	2 (2-0)
GE 232	Civics & Community Engagement	2(2-0)
GE 233	Seerat-un-Nabi	1(0-1)
GE 234	Arts and Humanities	2(2-0)
GE 235	Entrepreneurship	2(2-0)
Total Credit Hours		18(17-1)

4th Semester (Credit Hours)		
Course Code	Course Title	Credit Hours
ECO 241	Intermediate Macroeconomics	3(3-0)
ECO 242	Statistics-I	3(3-0)
ECO 243	Mathematical Economics	3(3-0)
GE 241	Ideology and Constitution of Pakistan	2(2-0)
IDS 241	Business Communication	3(3-0)
IDS 242	Introduction to Human Resource Management	3(3-0)
Total Credit Hours		17(15-1)

5th Semester		
Course Code	Course Title	Credit Hours
ECO 351	Microeconomic Theory	3(3-0)
ECO 352	Statistics-II	3(3-0)
ECO 353	Monetary Economics	3(3-0)
ECO 354	Islamic Finance	3(3-0)
ECO 355	Development Economics	3(3-0)
IDS 351	Introduction to Political Science	3(3-0)
Total Credit Hours		18(15-0)



6th Semester		
Course Code	Course Title	Credit Hours
ECO 361	Macroeconomic Theory	3(3-0)
ECO 362	Basic Econometrics	3(3-0)
ECO 363	Research Methodology	3(3-0)
ECO 364	Political Economy	3(3-0)
IDS 361	Introduction to AI Tools	3(3-0)
Total Credit Hours		18(17-1)

7th Semester		
Course Code	Course Title	Credit Hours
ECO 471	Advanced Econometrics	3(3-0)
ECO 472	Public Finance	3(3-0)
ECO 473	Poverty & Income Distribution	3(3-0)
ECO 474	Development Policy	3(3-0)
INT 479	Internship	3(0-3)
Total Credit Hours		15(15-0)

8th Semester		
Course Code	Course Title	Credit Hours
ECO 481	International Economics	3(3-0)
ECO 482	Project appraisal and investment analysis	3(3-0)
ECO 483	Energy Economics	3(3-0)
CP 489	Capstone Project	3(0-3)
Total Credit Hours		12(15-0)



Note: The course contents for General Courses and Interdisciplinary/Allied Courses will be available in separate documents, titled "General Courses Cluster" and "Interdisciplinary Courses Cluster" on the University of Chitral website.

GE 111	Quantitative Reasoning-I	3(3-0)
GE 112	Functional English	3(3-0)
GE 113	Applications of Information and Communication Technologies	3(2-1)
GE 114	Natural Sciences	3(3-0)
GE 115	Islamic Studies	2 (2-0)
GE 116	Ethics	2 (2-0)
GE 117	Fehm-e-Quran-I	1(0-1)
GE 118	Ethics: A General Introduction	1(0-1)

GE 121	Quantitative Reasoning-II	3(3-0)
GE 122	Expository Writing	3(3-0)
GE 123	Social Sciences	2(2-0)
GE 124	Fehm-e-Quran-II	1(0-1)
GE 125	Cyber Ethics	1(0-1)

GE 231	Pakistan Studies	2(2-0)
GE 232	Civics and Community Engagement	2(2-0)
GE 233	Seerat-un-Nabi	1(0-1)
GE 234	Arts & Humanities	2(2-0)
GE 235	Entrepreneurship	2(2-0)

GE 241	Ideology and Constitution of Pakistan	2(2-0)
IDS 241	Business Communication	3(3-0)
IDS 242	Introduction to Human Resource Management	3(3-0)

IDS 351	Introduction to Political Science	3(3-0)
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IDS 361	Introduction to AI Tools	3(3-0)
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COURSES OUTLINE

(YEAR 1, SEMESTER 1)

ECO 111 Principles of Microeconomics

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE DESCRIPTION

This introductory course provides a foundational understanding of microeconomic principles and their application to real-world decision-making by individuals, households, and firms. Students will explore how scarcity forces choices and how these choices are coordinated through markets. The course emphasizes developing an economic way of thinking, utilizing analytical tools, and applying core concepts to contemporary economic issues.

COURSE OBJECTIVES

- To Understand Core Economic Concepts of Microeconomics
- To Analyze Supply and Demand
- To Evaluate Government Interventions
- To Apply Elasticity Concepts
- To Explain Consumer Behavior
- To Analyze Production and Costs
- To Compare Market Structures

COURSE LEARNING OUTCOMES

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

- **Explain** fundamental microeconomic concepts such as scarcity, opportunity cost, trade-offs, and marginal analysis.



- **Analyze** the forces of supply and demand, including their determinants, and illustrate market equilibrium and disequilibrium.
- **Evaluate** the impact of various government interventions (e.g., price controls, taxes, subsidies) on market outcomes.
- **Analyze** production functions, different types of costs (short-run and long-run), and how firms make optimal production decisions.

COURSE CONTENTS

Introduction

- The Economic Problem
- Economic agents and economic problem
- Economics as a science of choices between competing wants and limited resources
- Classification of economics
- Importance and scope of micro-economics
- Basic concepts: Commodities, Income and Resources, Production and Consumption, Exchange and Distribution.

Demand & Supply:

- Demand, Demand Function
- Demand Curve, Changes in Demand, Law of Demand, Shift in Demand, Factors Affecting Demand
- Supply Function, Supply Curve, Changes in Supply, Factors Affecting Supply, Law of Supply, Producer Surplus, Equilibrium of Demand and Supply
- Market Equilibrium, Price Controls, Taxes and Subsidies

Elasticity of Demand & Supply:

- Elasticity of Demand & Supply
- Income Elasticity of Demand & Supply
- Cross Elasticity of demand
- Elasticity & its applications

Consumer Behavior:

- Utility Analysis (Cardinal Approach)
- Marginal Utility
- Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility
- Consumer Equilibrium



- Ordinal Approach of Consumer Behavior
- Indifference Curves
- Features of Indifference Curves
- Budget Line
- Consumer Equilibrium
- Comparison between two approaches

Production and Costs

- Production function
- Primary inputs, factors of production, Secondary/intermediate inputs
- Raw material and energy
- The laws of returns
- Revenues of the firm: total, average and marginal revenues
- Total, average and marginal costs
- Short-run and long run costs
- Equilibrium of the firm.

Market Structure:

- Basics of Perfect Competition, Monopoly, Monopolistic Competition and Oligopoly
- Different Possibilities of Short Run Firm Equilibrium under Perfect Competition
- Profit Maximization in Short-run and long-run under Perfect Competition
- Supply Curve of Perfectly Competitive Firm under Short and Long Run
- Short run and long run Equilibrium under Monopoly

RECOMMENDED BOOKS

- Mankiw, G. - Principles of Economics - 2nd Edition (2001), South- West Publishers.
- Samuelson and Nordrons - Economics –18th Edition (2004)-McGraw Hill.
- McConnel and Bruce - Principles of Economics -17th Edition (2006)- McGraw Hill.



SEMESTER-II

ECO-121 Principles of Macroeconomics

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE DESCRIPTION

This introductory course provides a comprehensive overview of how the economy functions at an aggregate level. It focuses on economy-wide phenomena such as national output, inflation, unemployment, and economic growth. Students will develop a coherent analytical framework to understand the behavior of the overall economy and the impact of various government policies.

COURSE OBJECTIVES

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

- To Understand Core Macroeconomic Concepts
- To Measure Economic Performance
- To Analyze Aggregate Demand and Supply
- To Understand Monetary and Fiscal Policies

COURSE LEARNING OUTCOMES

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

- **Define and Differentiate:** Accurately define and differentiate between core macroeconomic concepts such as GDP, inflation, unemployment, economic growth, and the business cycle.
- **Interpret Economic Data:** Interpret and analyze key macroeconomic data, including national income accounts, price indices, and labor market statistics, to understand current economic conditions.
- **Apply the AD-AS Model:** Utilize the Aggregate Demand and Aggregate Supply (AD-AS) model to explain macroeconomic equilibrium, analyze the effects of economic shocks, and illustrate the causes of inflation and unemployment.

COURSE CONTENTS



Introduction

- What is macroeconomics and how economist thinks?
- The economy in aggregate,
- Complexities of the world of business,
- Scope of macroeconomics,
- Brief account of classical and the development of macroeconomics after the World War-II
- Concept of business cycles: Boom and Depression,
- Three concerns of macroeconomics, Inflation, GDP growth and unemployment,
- Macroeconomic variables and their mutual relationship,
- Macro-models as abstraction from the real economy.

National Income Accounting

- Definition and concept of national income,
- Measures of national income: Gross Domestic Product (GDP) and Gross National Product (GNP), GDP at factor cost and at market prices, GDP deflator
- Computation of national income: Product, Income and Expenditure approaches,
- Circular flow of income,
- Nominal versus Real income,
- Per capita income and the standard of living.
- Measuring the cost of living: the consumer price index, CPI versus GDP deflator
- Measuring Unemployment rate

Components of Aggregate Demand

- The Concept of Open and closed economy models,
- Concept of aggregate markets: Product, Money, Labor and Capital markets,
- Components of aggregate demand: Consumption, Investment and Government spending, Income, and expenditure identities.
- Money and Monetary policy,
- Fiscal Policy

RECOMMENDED BOOKS

- Mankiw, G – Principles of Economics-2nd Edition (2001)- South-West Publishers.
- Samuelson and Nordons - Economics –18th Edition (2004)- McGraw Hill. Inc.
- Parkin, Michael - Macroeconomics, 7th Edition (2004)- Prentice Hall.
- Miller, R.L. – Economics Today -14th Edition (2005) – Addison



ECO-122 ISSUES IN PAKISTAN ECONOMY

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE CONTENTS

Quick Review of National Income Accounts

- GDP (Nominal and Real) and GNP
- Measure of Inflation and Employment
- Measures of Social Welfare
- Beyond GDP
- Basic Needs Approach
- HDI Approach

Agricultural Sector of Pakistan

- 1947-58: The Neglected Agriculture Sector
- The Green Revolution and its Impacts
- Evaluation of Green Revolution as Development Strategy
- Critical Analysis of Land Reforms in Pakistan
- Pakistan's Agricultural Sector: Historical Perspectives and Implications

Industrial Sector of Pakistan

- Composition of Manufacturing Sector
- Process of Industrialization from 1947-58
- The Development Decade of Ayub—1958-68
- The Experimental Regime of Bhutto—1972-77
- Zia Regime and back to the Basics—1977-88
- Industry after Structural Adjustment Program—1988-onwards
- Industrial Development in Pakistan: Factors and Development Programs

Fiscal and Monetary Policies and Inflation in Pakistan

- Fiscal Developments
- Structure and Trends in Revenue
- Structure of Expenditures and Trends of Fiscal Deficit
- Financing of Fiscal Deficit
- New NFC Award and Medium-Term Budgetary Framework
- Monetary Policy Management and Inflation in Pakistan
- Understanding Monetary Data
- Monetary Management
- Financial Sector Reforms
- Salient Features of Banking Sector
- Inflation and its Causes in Pakistan

Public and External Debts in Pakistan

- Difference between the two Debts



- Is Debt Creation Always Bad?
- Concerns Regarding Pakistan's Fiscal Deficit
- Reforms to Bring Debt under Control

Performance of Pakistan on Foreign Economic Front

- Understanding BOP accounts
- Trends in BOP
- Composition of Exports and Imports
- Historical Directions of Pakistan's Trade Policy Regimes
- Impacts of Structural Adjustment Program on Trade Policy
- Dealing with Globalization and WTO
- Impacts of Globalization on Poverty and other Socioeconomic Indicators in Pakistan
- Exchange Rate Regimes in Pakistan
- The Weakening Currency of Pakistan

Recent Challenges Facing Pakistan Economy

- Law and Order Situation
- Energy Crises
- Rising Circular Debt

RECOMMENDED BOOKS

- Zaidi, Akbar. Issues in Pakistan's Economy, Oxford University Press, Karachi. (Latest edition)
- Ahmed, Vaqar (2017) Pakistan's Agenda for Economic Reform, Oxford University Press.
- Hussain, Ishrat (2007) Pakistan: The Economy of an Elite State, Oxford University Press, Karachi.
- Saeed, Khawaja Amjed. Economy of Pakistan. Oxford University Press, Karachi. (Latest edition).
- Economic Survey of Pakistan (various issues) Federal Bureau of Statistics, Government of Pakistan.
- Rashid, Amjed and Barki, Shahid Javed (2016) Pakistan Moving the Economy Forward. Oxford University Press, Karachi.



SEMESTER-I I I

ECO-231 INTERMEDIATE MICROECONOMICS

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: Principles of microeconomics

COURSE DESCRIPTION

Intermediate Microeconomics builds upon the foundational principles of microeconomics, delving deeper into consumer behavior, firm theory, and market structures. Students will explore how individuals and firms make decisions based on constraints and preferences.

COURSE OBJECTIVES

1. Understand Consumer Behavior: Analyze how consumers make decisions based on preferences, budget constraints, and utility maximization.
2. Examine Firm Behavior: Study production decisions, cost structures, and profit maximization strategies of firms.
3. Analyze Market Structures: Explore different market forms like perfect competition, monopoly, oligopoly, and monopolistic competition.
4. Apply Microeconomic Tools: Use concepts like marginal analysis, elasticity, and game theory to understand economic decisions.
5. Understand Strategic Interactions: Examine how economic agents interact strategically in various contexts.
6. Address Market Failures: Discuss issues like externalities, public goods, and information asymmetry affecting market outcomes.
7. Develop Analytical Skills: Apply microeconomic theories to real-world problems and policy analysis.

Learning Outcomes

By the end of this course, students will have a thorough understanding of microeconomic theories and their practical applications, preparing for advanced studies or careers in economics.

COURSE CONTENTS

Introduction

- Analyzing Economic Problems
- Constructing Economic Models
- Economic models as abstraction from the reality.
- Optimization Principle.

Consumer Theory



- Budget Constraint and its Application
- Utility and Preferences
- Indifference Curve Analysis
- Optimal Choice of Consumer
- Application of Consumer Theory in choosing Taxes
- Income Effect.
- Substitution Effect
- Price Effect as a combination of Income and Substitution Effect
- Decomposition of Price Effect into income & substitution effects
- Cases of normal, inferior & Giffen goods.

Theory of Demand and Supply

- Income Consumption Curve and Engel Curves
- The Price Consumption Curve and the Demand Curve
- Derivation of Demand Curve
- Demand Function
- Supply Function
- Supply and Demand Equilibria
- Comparative Statics
- The Inverse Demand Function.

Producer Theory

- Producer's Objective
- Technology Constraints
- Short Run and Long Run Production Function and Cost
- Diminishing Marginal Product
- Diminishing Technical Rate of Substitution
- Returns to Scale and Cost Function
- Isoquant and Isocost Analysis
- Cost Minimization in Short and Long run
- Short-Run and Long run Profit Maximization.

Markets Analysis

- Perfectly Competitive Markets: Analysis and Application
- Short Period Analysis (equilibrium cases, supply curve of firm)
- Long Period Analysis (equilibrium of firm, supply curve of industry)
- Monopoly Markets: Analysis and Application
- Short Period Analysis (equilibrium cases, why no supply curve of firm)
- Long Period Analysis (equilibrium of firm, sub-optimum, optimum and super-optimum cases)
- Price Discrimination (concept, need, possibility, forms, and degrees of price discrimination)
- Monopolistic Competition: Analysis and Application
- Short Period Analysis (equilibrium cases)



- Long Period Analysis (equilibrium of firm)
- Oligopoly: Analysis and Application
- Introduction to Cournot Model, Bertrand Model, Stackelberg Model, Sweezy's Kinked Demand Model

RECOMMENDED BOOKS

- Koutsoyiannis, A. - Modern Microeconomics- 2nd edition (1979)- Macmillan.
- Microeconomics by N. Gregory Mankiw, 4th edition, Thomson South-Western, 2006.
- Walter Nicholson- Intermediate Microeconomics- 6th Edition (1994) or latest The Dryden Press: Harcourt Brace College Publishers.
- Varian Hall R.- Intermediate Microeconomics: Modern Approach- 6th edition (2002)- W. Norton Publishing Company, New York.
- David Besanko and Ronald R. Braeutigam – Microeconomics – 4th edition (2010)- John Wiley and Sons, Inc.
- Pindyck and Rubinfeld with Mehta- Microeconomics- 6th Edition (2005)- Pearson Education, Singapore.

ECO 232 Mathematics

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE CONTENTS

- Sets and their operations,
- Functions and their types and graphs, Relations their properties, convex functions, their characterizations and applications
- Equations, Types of equations, system of linear equations, solution of equations, absolute values and Inequalities
- Limit and Continuity, left- and right-hand limit, limit at infinity
- Derivatives and their Applications, differential functions and transcendental functions
Differentiation of polynomial rational, partial derivatives, higher order derivatives, properties and applications
- Integration: Basic integral formulas, rules of integration, indefinite and definite integrals and its applications, areas under curves



- Sequences and series

RECOMMENDED BOOKS

1. Thomas GB, Finney AR, (2005). Calculus (11th edition), Addison – Wesley USA.
2. Stewart J. (1995). Calculus (3rd edition), Brooks/Cole.
3. Anton H, Bevens I, Davis S. (2005). Calculus (8th edition), John Wiley, New York.
4. S.M. YUSUF, M. AMIN (2012). Calculus (7th edition), Lahore.
5. Bashir Ahmed, University of Mathematics (3rd edition), Multan.
6. K. Sydsaeter and P. Hammond, Mathematics for Economic Analysis, PearsonEducational Asia, Delhi, 2002.
7. A.C. Chiang, Fundamental Methods of Mathematical Economics. N.Y, McGraw Hill Co, Latest edition.

ECO-233 HISTORY OF ECONOMIC THOUGHT

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

Course Description

History of Economic Thought traces the evolution of economic ideas and theories from ancient to modern times. It examines contributions of key economists and schools of thought, contextualizing the development of economic analysis.

Course Objectives

1. Understand Evolution of Economic Ideas: Trace development of economic thought through history.
2. Examine Key Economists' Contributions: Study major thinkers like Smith, Ricardo, Marx, Marshall, and Keynes.
3. Analyze Schools of Thought: Look at Mercantilism, Classical, Neoclassical, Keynesian, and other economic traditions.
4. Contextualize Economic Theories: Understand historical contexts shaping economic ideas.
5. Appreciate Diversity of Thought: Recognize varied perspectives in economic thinking.



Learning Outcomes

By the end of this course, students will:

1. Understand Historical Development: Grasp evolution of major economic concepts and theories.
2. Identify Key Contributors: Recognize influential economists and their contributions.
3. Analyze Theoretical Perspectives: Compare different economic schools and ideas.
4. Contextualize Ideas: Relate economic thoughts to their historical settings.
5. Develop Critical Appreciation: Evaluate economic ideas' relevance and limitations.
6. Enhance Understanding of Economic Discourse: See how past ideas shape current economic debates.

COURSE CONTENTS

Classical Economics

- Adam Smith; The framework of Classical Economics
- Thomas Robert Malthus; Elaborations and Cleavages within the Classical system
- John Stuart Mill; Postscript to Classical Economists

Marxian Economics

- Karl Marx and the Economics of Das Kapital; Post script to Marxian Economics

Neo-Classical Economics

- Alfred Marshall; Framework of Neo-Classical Economics
- Pre 1914 variations to Neo-Classical Themes; Postscript to Neo-Classical Economics

Keynesian Economics

- The Economics of Keynes general Theory
- Postscript to Keynesian Economics

Post Keynesian Economics

RECOMMENDED BOOKS

- William J. Barber, A History of Economic Thought, (latest edition), Wesleyan University Press, Middletown.
- Sandmo, A., Economics Evolving: A History of Economic Thought, (latest edition), Princeton University Press,
- Medema, S. G., and Samuels, W. J., A History of Economic Thought: The LSE Lectures(1998), Princeton University Press



Semester 4th

ECO-241 Intermediate Macroeconomics

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: Principles of Macroeconomics

COURSE DESCRIPTION

Intermediate Macroeconomics builds upon foundational macroeconomic concepts, focusing on aggregate economic behavior, national income determination, and policy analysis. The course explores theories related to economic growth, inflation, unemployment, and international macroeconomic interactions. Students analyze macroeconomic models, policy tools, and real-world economic issues.

Course Objectives

1. Understand Macroeconomic Frameworks: Study key macroeconomic models and their implications for policy.
2. Analyze Aggregate Economic Variables: Examine national income, inflation, unemployment, and their interrelations.
3. Explore Economic Growth: Investigate determinants and theories of economic growth.
4. Evaluate Macroeconomic Policies: Discuss fiscal and monetary policy tools and their effectiveness.
5. Consider International Aspects: Look at open economy macroeconomics, exchange rates, and global economic interactions.
6. Apply Macroeconomic Concepts: Use theories to analyze real-world economic issues and policy debates.

Learning Outcomes

By the end of this course, students will:

1. Analyze Macroeconomic Indicators: Interpret data on inflation, unemployment, GDP, and growth.
2. Apply Macroeconomic Models: Use models to understand economic phenomena and policy impacts.
3. Evaluate Policy Effectiveness: Assess fiscal and monetary policies in different economic contexts.
4. Understand Open Economy Issues: Analyze macroeconomic aspects of international trade and finance.
5. Develop Critical Thinking: Apply macroeconomic concepts to discuss current economic issues and debates.
6. Enhance Analytical Skills: Use macroeconomic tools for problem-solving and policy analysis.

COURSE CONTENTS

Introduction

- Introduction to Macroeconomics
- Methodology of Economists
- Economic models & economic systems
- Exogenous and Endogenous variables



- Scope of Macroeconomics, Activities & Objectives of Macroeconomists
- Introduction to the Classical & Keynesian schools of thought.

Measurement & Structure of the National Economy

- Introduction
- The circular flow of national income
- National Income Accounting, GDP & GNP
- Expenditure (demand), Product (supply) and Income (factor rewards) approach
- Saving & Wealth
- Nominal & Real GDP
- Price indexes & inflation, interest rates.

Productivity, Output & Employment

- The production functions
- The demand for labour, the supply of labour
- Labour Market Equilibrium
- Okun's law and unemployment.

Consumption, Saving & Investment

- Consumption and saving
- Definition of investment (autonomous & induced investment)
- The desired capital stock
- Equilibrium in the goods market
- Derivation of IS curve (graphic).

Determination of National Income (The IS-LM/ AD-AS Models: A

General framework formacroeconomic analysis)

- The FE Line: Equilibrium in the labour market
- The IS Curve: Equilibrium in the goods market
- The LM Curve: asset market equilibrium
- General equilibrium in the complete IS-LM model
- Price adjustment and the attainment of general equilibrium
- Aggregate demand and aggregate supply.

Inflation and Unemployment

- Definition of inflation, types, causes and measurement of inflation
- Different approaches to inflation
- Transitory and Structural unemployment
- The relationship between inflation and unemployment
- Philips Curve.

RECOMMENDED BOOKS

- Abel Andrew B. & Bernanke Ben S, Macroeconomics, 5th / 8th Edition, Addison Wesley
- Mankiw N. G., Macroeconomics, 6th Edition or earlier versions, Worth
- Shapiro, Edward – Macroeconomic Analysis- 7th Edition (2000) –Harcourt Brace Inc.



- Froyen, Richard–Macroeconomics: Theories and Policies–7th Edition (2002) –•Macmillan
- Blanchard, Oliver – Macroeconomics -2nd Edition (2000)- Prentice Hall International.
- Dornbusch & Fisher – Macroeconomics- 9th Edition (2004) - McGraw Hill Inc.
- David Romer, “Advanced Macroeconomics” The McGraw-Hill Series in Economics.

ECO-242 STATISTICS – I

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE CONTENTS

What is Statistics?

- Introduction to Statistics
- Key Statistical Concepts Practical Application
- Application of Statistics in Economics

Collection and Presentation of data

- Types of Data
- Collection of Primary and Secondary Data
- Presentation of Data
- Frequency Distribution
- Graphical Techniques for Quantitative data
- Scatter diagrams, Pie Charts, Bar Charts and Line Charts.

Numerical Descriptive Measures

- Measures of Central Location (A.M, G.M, H.M, Median, quartiles and mode)
- Measures of Variability (Range, quartile deviation, , standard deviation, variance and coefficient of variation)
- Interpreting the Standard Deviation and Coefficient of Variation

Probability

- Introduction, Assigning Probabilities to events
- Rules of counting
- Combination and permutation
- Rules of Probability
- Conditional Probability



Random Variables and Probability Distributions

- Introduction, Distribution Function
- Discrete and Continuous Random Variables and its Density Functions
- Binomial probability distribution (Mean and Variance)
- Normal Probability Distribution (Mean and Variance).

Time Series and Forecasting

- Introduction
- Variation in time Series
- Trend Analysis
- Cyclical, Seasonal and Irregular Variation
- Time Analysis in Forecasting.

RECOMMENDED BOOKS

- Basic Statistics for Business and Economics by EARLK. BOWN AND MARTINSTARR
- Probability and Statistics by M.R. Spiegel, J.L. Schiller, and R.L., Sirinivasan (2000), 2nd edition Schaums Outlines Series. McGraw Hill. N.Y.
- Statistics for Management, Richard I. Levin, and David S. Rubin, Prentice-Hall International, Inc
- Elementary Statistics, 8th Edition, by Prof. Allan G. Bluman
- Introduction to Statistical Theory, Part 1 & 2, by Prof. Sher Muhammad Chaudhry.(2009 Edition)

ECO-243 MATHEMATICAL ECONOMICS

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: Maths-I and Maths-II

COURSE CONTENTS

The Nature of Mathematical Economics

- Pure and applied mathematics
- The use of mathematical tools in social sciences, particularly in economics
- Economic theory (logical argument) as description of relationship between variables
- Mathematical Support: Expression of theory in functional form
- Explaining properties of economic parameters like elasticity, propensity to consume etc.,
- Verification of hypotheses and the use of mathematical models,



Parameters, and variables(dependent and independent)

- Linear and non-linear functions: quadratic, polynomial, circular
- Types of functions: constant, rational, non-algebraic, logarithms & exponential
- Rules of logarithms and exponents
- Functions of more than two independent variables
- Graphs of various functions
- The importance and limitations of mathematical models.

Equilibrium Analysis

- Equation of a straight line: Intercept and Slope parameters and their economic interpretation
- Partial and general equilibrium analysis
- Single and Simultaneous equation models
- Examples from market models: Demand and supply equations
- Determination of price and quantity
- Calculation of elasticities at equilibrium.

Linear Models and Matrix Algebra

- Simultaneous equations models and the use of matrices
- Types of matrices: Square, identity, null, idempotent, diagonal, transpose, and their properties
- Laws of matrix operations: addition/subtraction, scalar, and vector multiplication
- Conditions for non-singularity of a matrix
- Determinant & its properties, Minors, and cofactors, Ad-joint and inverse of a matrix
- Properties of inverse of a matrix
- Solution of linear equations: the Gaussian method, the Cramer's rule, and Inverse matrix method
- Economic applications: Solution of market models, national income models.

Differentiation

- The concept of derivations
- Functions of one variable and rules of differentiation
- Sum-difference, product and quotient rules, chain rule, power function rule, inverse function rule, Implicit functions rule
- Combinations of rules, differentiation of logarithmic & exponential functions
- Higher order derivatives, Concept of maxima & minima
- First and second derivative tests, point of inflection
- Free and Constrained optimization, Partial differentiation & its rules
- Hessian and Jacobian determinants

Economic Applications of Differential Calculus

- Analysis of Utility
- Demand, Production, Cost and Supply functions



- Lagrange function: Profit maximization and cost minimization under perfect competition and monopoly
- Maximizing excise tax revenue in monopolistic competitive market
- Comparative static analysis: Partial equilibrium market model
- National Income model
- Partial and Substitution elasticities
- Optimization by using Cobb- Douglas, CES and Translog functions with interpretation of the results.

RECOMMENDED BOOKS

- Chiang, A. C. Fundamental Methods of Mathematical Economics, 3rd Edition (1984) McGraw Hill Publishing Company.
- Frank, Budnick. Applied Mathematics for Business, Economics and Social Sciences, 4th Edition or latest - McGraw Hill Publishing Company.
- Dowling, E. T. Mathematics for Economists, Schaum's Outline Series, 3rd Edition McGraw Hill Publishing Company.
- George, Alvery et. al. Essentials of Mathematics with Business Applications, 5th Edition, McGraw Hill Publishing Company.
- Weber, E. Jean. Mathematical Analysis: Business and Economic Applications, Latest Edition, Harper and Row Publishers, New York.

ECO-244 Development Economics

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE DESCRIPTION

This course provides an introduction to the field of development economics, focusing on the economic challenges faced by low-income countries and the theories and policies aimed at fostering sustainable economic growth and improved well-being. It explores the complex interplay of economic, social, political, and institutional factors that influence development outcomes.

COURSE OBJECTIVES



This course aims to:

- **Introduce** students to the fundamental concepts, theories, and empirical evidence in the field of development economics.
- **Equip** students with the analytical tools necessary to understand the complex economic challenges faced by low-income countries.
- **Enable** students to differentiate between economic growth and broader economic development, and to critically assess various measures of well-being.
- **Familiarize** students with major theories explaining economic growth, poverty, and inequality, including their strengths and weaknesses.
- **Analyze** the roles of human capital (health and education), institutions, and market imperfections in the development process.

COURSE LEARNING OUTCOMES

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

- To Define and Differentiate Development
- To Analyze Development Theories
- To Understand Poverty and Inequality
- To Assess Human Capital's Role
- To Examine Market and Institutional Failures
- To Evaluate Development Policies
- To Discuss Global Development Issues

COURSE CONTENTS

The Concept & Nature of Development

- Overview of the course
- The Concept & Nature of Economic Development
- An overview of diverse structures and common characteristics of developing countries

Theories of Development

- Introduction
- The Growth Game
- The Economics of Growth: K, L & Tech
- Differing Initial Conditions
- Classic Theories



- Linear Stages Theories & the Harrod-Domar Model
- Structural Change Models
- Neo-Classical counterrevolution
- Contemporary Models
- The New Growth Theory

Poverty and Population Growth

- Social Welfare
- Absolute Poverty
- Characteristics of Poverty
- Demo Transition
- Causes of High Fertility in Poor Households
- Policy Implications & Options

Human Capital: Education & Health

- Education & Health in Development
- International Trends
- The Human Capital Approach
- Child Labor & Education for Women
- Educational Systems
- Health Systems
- Policy Implications & Options

RECOMMENDED BOOKS

- Todaro, M. P. and S. C. Smith. (2011). Economic Development, 11th edition, Palgrave.
- Debraj Ray (1998). Development Economics, Princeton University Press.
- Daron Acemoglu and James Robinson (2012). Why Nations Fail: The Origins of Power, Prosperity and Poverty, Crown Publishing Group.
- Banerjee and E. Duflo (2012). Poor Economics, Public Affairs
- Taimur Rahman. (2012). The Class Structure of Pakistan, Oxford University Press.
- Vaqar Ahmed (2017). Pakistan's Agenda for Economic Reform, Oxford University Press



Semester 5th

ECO-351 Microeconomic Theory

Credit Hours: 3

Contact Hours: 3

Pre-requisites: Intermediate Microeconomics

COURSE DESCRIPTION:

This course covers the advance topics in microeconomics. The focus will be on mathematical treatment of consumer theory, production theory and market analysis. Students should have good mathematical background.

COURSE OBJECTIVES:

Following are the prime objectives of this course:

1. To explain the technical concepts of microeconomics
2. To learn the latest developments in microeconomic theory,
3. To understand the modeling of consumer and production theory.

COURSE LEARNING OUTCOMES:

After completing this course, students are expected to:

RECOGNIZE and IDENTIFY the latest development in microeconomic theory

UNDERSTAND the modeling of consumer choices and production decisions

APPLY the theoretical knowledge in research

COURSE CONTENTS:

1. Introduction

- The Economic Problem,
- Basic economic agents,



- Microeconomics and Macroeconomics,
 - Types of Microeconomic Analysis, framework of Microeconomics
2. **Consumer Behaviour**

- Consumer Preferences
- Consumption bundle
- Axioms of consumer preferences
- Budget Constraint
- Consumer choices
- Utility maximization subject to budget constraint
- Marshallian demand function (Concept, Derivation and Properties)
- Indirect utility function (Concept, Derivation and Properties)
- Budget minimization subject to utility constraint
- Hicksian demand function (Concept, Derivation and Properties)
- Expenditure Function (Concept, Derivation and Properties)
- Duality between Hicksian and Marshallian demand functions,
- Duality between utility function and indirect utility function
- Choice under uncertainty (elementary treatment)
- Consumption over Time (elementary treatment)

3. **Production Analysis**

- Constraints

Technical Constraints:

Production, production process, Types of inputs, concept of net output, production plan, Production set, Few Concepts in describing technology; Iso-quants, Technical rate of substitutions, Elasticity of substitution, Returns to scale, Elasticity of scale, Homogeneous and homothetic technologies, Euler's theorem, Technologies with distinct outputs and inputs, Production function and Classification of production functions; Fixed coefficients production function, Leontief technology, Linear production function, Cob-Douglas production function, Constant elasticity of substitution production function, Transcendental logarithmic production function.

Financial Constraints:

Budget Constraint, Cost of Production, Economic Cost, Private Cost, External Cost, Implicit Cost, Explicit Cost, Cost equation and Cost Function.

Market Constraints:

Price Constraints: price takers, price regulations, sticky prices, minimum prices etc, Quantity Constraints: Quota, Negatively sloped demand curve, kinked demand curve

4. **Optimization**



Profit maximization: Profit equation, Input demand function (concept, derivation and properties), Output supply function (concept, derivation and properties), Profit function (concept, derivation and properties).

Cost minimization: The cost minimization problem, Conditional input demand function (concept, derivation and properties), Cost function (concept, derivation and properties)

Revenue maximization: The revenue maximization problem, Revenue function concept, derivation and properties)

TEXT AND REFERENCE BOOKS

- Gravelle and Rees, *Microeconomics*, Third Edition, Pearson Education,
- Varian H. R. *Microeconomic Analysis*, Third Edition, W.W. Norton and Company, New York, 1992
- Silberberg E. *The Structure of Economics: A mathematical analysis*, Second Edition, McGraw Hill publishing Company, 1990

ECO-352 STATISTICS – II

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: STATISTICS-I

COURSE CONTENTS

Introduction

- Introduction
- Sources of Data
- Data Sampling and Sampling Distribution
- Introduction to Sampling and Sampling Plans
- Errors Involved in Sampling
- Sampling Distribution of the Sample mean

Simple Regression and Correlation

- Simple Regression
- Deterministic and Probabilistic Models
- Simple Linear Regression Model
- Standard Deviation of Regression Estimate
- Correlation
- Pearson Product Moment Correlation Coefficient.

Estimation: Describing a single population

- Introduction Point and Interval Estimates Basic Concepts
- Confidence and Interval estimates of the Mean from Large samples



- Interval estimates using the t-distribution
- Determining the Sample Size.

Hypothesis testing: Describing a single population

- Introduction, Concepts Basic to the Hypothesis testing
- Testing the population mean when the Variance is known
- Testing the population mean when the Variance is unknown

Chi-Square Distribution and Statistical Inference

- Introduction
- Chi-squared test of a contingency table

F-Distribution and Statistical Inference

- Introduction
- Testing Hypothesis about the Equality of Two Variances.

Analysis Of Variance

- Introduction
- One way Analysis of Variance for Equal and Unequal sample sizes
- Two-way Analysis of Variance without Interaction.

RECOMMENDED BOOKS

- Basic Statistics for Business and Economics by EARLK. BOWN AND MARTIN STARR
- Probability and Statistics by M.R. Spiegel, J.L. Schiller, and R.L., Sirinivasan (2000), 2nd edition Schaums Outlines Series. McGraw Hill. N.Y.
- Statistics for Management, Richard I. Levin, and David S. Rubin, Prentice-Hall International, Inc
- Statistics for Management, Richard I. Levin, and David S. Rubin, Prentice-Hall International, Inc
- Introduction to Statistical Theory, Part I & II, by Prof. Sher Muhammad Chaudhry.

Course Title: Monetary Economics

Course Code: ECO-353

Credit Hours: 3 (3-0)

Pre-requisite: Principles of Macroeconomics

Course Description



This course provides students with a comprehensive understanding of money, monetary theory, the functioning of monetary institutions, and the formulation and impact of monetary policy. It explores the role of money in the macroeconomy, inflation dynamics, and interest rate determination with applications to developing countries, especially Pakistan.

Course Objectives

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

1. Understand the nature, functions, and evolution of money and monetary systems.
2. Analyze key theories of money demand and supply.
3. Explain how monetary policy is conducted and its role in economic stabilization.
4. Examine the relationship between money, inflation, and interest rates.
5. Evaluate the effectiveness of monetary policy in developing economies, with a focus on Pakistan.

Course Content

1. Introduction to Money and the Monetary System

- Evolution, definition, and functions of money
- Monetary aggregates (M1, M2, M3)

2. The Demand for Money

- Quantity theory of money
- Transaction, precautionary, and speculative motives
- Friedman's restatement

3. Role of Money in the Economy

- Debate on neutrality and non-neutrality of Money
- Classical Dichotomy and Keynesian Integration of Nominal and Real
- Sectors
- Role of Money in the IS-LM Framework
- Money in Aggregate Demand and Aggregate Supply Analysis
- Keynesian vs Monetarist views of Equilibrium Output, Employment and Prices

4. The Supply of Money and Money Multiplier

- Money creation process
- Role of commercial banks and central bank



- Exogenous vs endogenous money supply

5. Interest Rates and Monetary Transmission

- Determinants and types of interest rates
- Real vs nominal interest rates
- Interest rates and investment behavior

6. Monetary Policy and the Central Bank

- Structure and functions of central bank
- Instruments: OMO, reserve ratio, discount rate
- Goals and targets (inflation targeting, interest rate control)

7. Theories and Models of Monetary Economics

- Classical dichotomy, neutrality of money
- IS-LM framework
- AD-AS model and monetary policy impact

8. Inflation and Money

- Types and causes of inflation
- Demand-pull vs cost-push
- Stagflation, Phillips curve
- Monetary explanations of inflation

9. Monetary Policy in Pakistan

- Role of State Bank of Pakistan
- Historical trends of inflation and interest rates
- Challenges in policy implementation

Recommended Textbooks

1. **Mishkin, F. S.** *The Economics of Money, Banking and Financial Markets*, Pearson, 11th ed.
2. **Cecchetti, S., & Schoenholtz, K.** *Money, Banking and Financial Markets*, McGraw-Hill, 4th ed.
3. **Handa, J.** *Monetary Economics*, Routledge.



4. **McCallum, B. T.** *Monetary Economics: Theory and Policy*, McMillan.
5. **Laidler, D. E. W.** *The Demand for Money*, Pearson.

ECO-354 ISLAMIC FINANCE

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: Nil

COURSE DESCRIPTION:

The objective of studying social sciences is to help in achieving human wellbeing. However, framework in conventional economics is secular. Hence, the objective of every member in a society is to maximize his/her own material well-being. According to neo-classical paradigm individuals maximize the welfare of a society while maximizing private self-interest. In other words, there exist no fallacies of composition. That is, whatever is in the self-interest of an individual, is also in the interest of a society as a whole. Hence, there is no need to motivate economics agent for behaving in line with the interest of society. Keynesians though believe on the clash between self and social interest and admit the existence of fallacies of composition such as 'paradox of thrift' and 'liquidity trap' however, they believe that such anomalies can be resolved by appropriate government intervention and not by changing the fundamental objective of individuals. Still we are observing many economic issues in the world. In this subject we will discuss how Islam provides a better alternative

COURSE OBJECTIVE:

The objectives of this course are:

1. To provide an introduction to the basic concepts and principles of Islamic economics.
2. A enable the students for comparative analysis of different economic systems.
3. To enable the students to understand the role of values in economy
4. To explain the theories and concepts of the Sharia'h compliant financial system in an Islamic economy.
5. To appraise the efforts undertaken in Pakistan and other Islamic countries at the state level as well as in private sector to revamp overall economy on the universal principles of Shariah.
6. To outline the challenges faced in transformation of contemporary interest based economy into interest free economy.

COURSE LEARNING OUTCOMES:

Upon successful completion of the course, the student will be able to:

- **DIFFERENTIATE** between the major characteristics of the dominant conventional economic systems (capitalism and Communism/socialism) and one based on the



fundamental principles of Islam

- UNDERSTAND the conditions that should be met for a just, well-balanced, stable, and growing economy under Islamic perspective.
- UNDERSTAND the Islamic principles governing Islamic financial system

COURSE CONTENTS:

1. Definition of Islamic Finance based on Shariah and Fiqh,

2. Features of Islamic finance;

- Prohibition of Riba,
- Prohibition of Gharar,
- Prohibition of Mayser,
- Prohibition of dealing in unlawful goods and services,
- Desire for justice and equity based on business Ethics.

3. History and Development of Islamic Finance;

- During 650 AD – 750 AD,
- During 750 AD – 1900 AD,
- During 1900 AD – 2000 AD,
- 2000 AD till date.

4. Shariah Compliant Islamic Finance Structures;

- Barter Trading (Bay al-Muqayada),
- General Sale (Bay al-Mutlaq),
- Exchange Sale (Bay al-Sarf),
- Markup-Sale (Murabaha),
- Deferred Payment Sale (Bay' Bithaman Ajil)
- Monetization (Tawarruq),
- Ena Contract,
- Salam Sale (Bai Salam),
- Manufacturing Finance (Istisna),
- Partnership (Musharaka),
- Venture Capital (Mudaraba),
- Islamic Lease (Ijara),
- Pledge (Rahn),
- Guarantee (Kafala),
- Wakala,
- Hawala,
- Wadia,
- Muqassa,



- Urboun,
- Waad (Promise),
- Qard.

5. Difference between Islamic finance and conventional finance. TEXT AND REFERENCE BOOKS:

- Ahmad, K. Studies in Islamic Economics, Leicester, The Islamic Foundation, United Kingdom, 1980.
- Ayub, M. Understanding Islamic Finance, John Wiley and Sons Ltd., The Atrium, SouthernGate, Chichester, West Sussex, England, 2007.
- Maududi, Sayyid Abul Ala. First Principles of Islamic Economics, Islamic Foundation, Markfield, United Kingdom, 2011.
- Usmani, M. Taqi. Islamic Finance, Maktaba Maariful Quran, Pakistan, 2005

ECO-355 LABOUR ECONOMICS

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE CONTENTS

Introduction

- Definition, Scope and Importance of Labour Economics
- Labour Market, Importance of Labour Market, and Key Actors of Labour Market

Labour Supply

- Defining and measuring the labour force
- Determinants of labour supply
- Understanding the worker's preferences
- Derivation of labour supply curve
- Measuring the elasticity of labour supply

Labour Demand

- The production functions
- Employment decisions by the firm and factors related to these decisions
- Cost adjustment and labour demand



- The effect of minimum wage on labour demand

Labour Market Equilibrium

- Labour market equilibrium in a competitive environment
- Competitive equilibrium across labour markets
- Economic impact of labour force migration
- The cobweb model in labour market
- Non-competitive labour markets

Compensating Wage Differentials

- The Market for risky jobs
- Hedonic wage estimation
- Safety and health regulations
- Compensating wage differentials
- Health insurance and labor market

Human Capital

- Education and labour market
- Present value of education
- The schooling model
- Education and earning
- On-job trainings

The Wage Structure

- The earnings distribution
- Explanation of wage inequality
- Family migration
- The job match
- Job turnover and retention policies

Labour Unions and Collective Bargaining



- History and functions of labour union
- Efficient bargaining
- Wage and non-wage effects of union

Unemployment

- Types of unemployment
- Mismatching and unemployment
- Unemployment compensation
- Intervention in labour markets and unemployment

An Overview of Pakistan's labour market structure

- The Case Studies of Pakistan

RECOMMENDED BOOKS

- Borjas, George J. (2008). Labor Economics. McGraw-Hill/Irwin.
- McConnell et al. Contemporary Labor Economics, (latest edition), McGraw-Hill/Irwin.
- R. Ehrenberg and R. Smith. Modern Labor Economics, (latest edition), Addison Wesley.
- Labour Market Trends and Economic Growth in Pakistan (State Bank of Pakistan).

ECO-356 Economics of Climate Change

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE DESCRIPTION:

Climate change is a natural phenomenon associated with human livelihoods. The effects of climate change on different sectors of the economy particularly agriculture and other natural resources may vary across the diverse ecological regions. The major human induced factors causing environmental degradation are: mismanagement / over exploitation of natural resources, deforestation and unsustainable agricultural practices. Timely preparation to climate change is needed to reduce the adverse impacts of climate change in all sectors of the economy in general and agriculture, livestock, forest and water resources in particular.



COURSE OBJECTIVES:

Main objectives of this course are:

1. To impart basic understanding of the concepts of the climate change and its adaptation and mitigation measures.
2. To increase knowledge about the risks and vulnerabilities posed by climate change and its potential impacts for economic development and poverty.
3. To provide an up-to-date economic interpretation of climate change.
4. To discuss and compare the theoretical economic solutions to combating climate change.
5. To outline possible future climate policy issues and their solutions.

COURSE LEARNING OUTCOMES:

It is expected that a successful teaching of the course will result in the

Following outcomes:

- **CLARIFICATION** of the concept of climate change, its causes and consequences.
- **UNDERSTAND** the pertinent threats from the climate change to the global and local economy.
- **RECOGNIZE** the potential measures needed to minimize adverse impact of climate change to the economy.
- **UNDERSTAND** the ways and means of addressing climate change related research.
- **ABILITY TO** contribute in policy and development related dialogue pertaining to climate change.

COURSE CONTENTS

1. Introduction

- Climate Change
- Climate Change Factors
- Global Warming

2. Causes and Consequences of Climate Change

- Green House Gas Effect
- Trends in Global Carbon Emissions
- Trends and Projections for Global Climate



3. Economic Analysis of Climate Change

- Cost-Benefit Studies of Global Climate Change
- Climate Change and Inequality

4. Policy Responses to Climate Change

- Adaptation and Mitigation
- Climate Change Adaptation Studies
- Climate Change Mitigation: Economic Policy Options
- Carbon Taxes
- Tradable Permits
- Carbon Taxes or Cap and Trade
- Other Policy Tools such as Subsidies, Standards, R&D, and
- Technology Transfer
- The Technical Challenge

5. Climate Change Policy in Practice

- The Paris Agreement of 2015
- How adequate or inadequate are the commitments
- Regional, National and Local Actions
- Water, Forests and Soils

TEACHING METHODOLOGY:

- Lectures
- In Class Activities
- Group Discussion
- Guest Lectures (optional)
- Term Paper (optional)
- Field Exposure (optional)

ASSESSMENT:

- Mid Term Evaluation: 30%
- (Sessional Examination, Quizzes, Assignments, In-Class Activities) 20%
- Final Examination: 50%



TEXT AND REFERENCE BOOKS:

1. Frank, A., & Elizabeth, A. S. (2008). The Cost of Climate Change, Natural Resource Defense Council. www.nrdc.org/globalwarming/cost/cost.pdf.
2. Boden, T.A., Marland, G., & Andres, R. J. (2016). Global, Regional, and National Fossil-Fuel CO₂ Emissions, Carbon Dioxide Information Analysis Center (CDIAC), Oak Ridge National Laboratory.
3. Jeremy, C., & Fedor, D. (2016). Tracking Global Carbon Revenues: A Survey of Carbon Taxes versus Cap-and-trade in the Real World. *Energy Policy* 96:50-77.
4. Simon, D., & Nicholas S. (2014). Endogenous Growth, Convexity of Damages and Climate Risk: How Nordhaus' Framework Supports Deep Cuts in Carbon Emissions, Grantham Research Institute on Climate Change and the Environment, Working paper No. 159, June

ECO-357 Feminist Economics

Course Overview:

The course introduces the feminist project in economics.

Part I examines the emergence of feminist economics since the early 1990s. This literature is critical of the existing approaches in economics for either ignoring or inadequately incorporating gender differences in analysis and it seeks to "engender" economic analyses at both the micro and macro levels and to create a more adequate economics. Feminist economists are not a homogeneous group: while they are all feminist in that they are committed to advancing equality across gender, they differ in what this might entail and the economics frameworks they rely on. Some generate work using neoclassical tools, others question the conceptualization of the



economy, economic agency, work, well-being, and gender-unaware policymaking.

Part II applies feminist economics perspectives to examine the nature, causes, and consequences of contemporary gender inequalities in how people secure their livelihoods. This discussion starts with a brief historical examination of the emergence of gender division of labor in US and moves to examine mainstream (neoclassical) and non-mainstream feminist approaches to gender inequalities in the household and the labor market.

Part III builds on the analyses in Part II and examines feminist economic policies for a more equitable society, focusing mainly on the US. These include cover issues of anti discrimination, workplace, anti-poverty, work-family balance.

Course Objectives

By the end of the course, students can expect to become proficient in the following areas:

- (1) Substantive Knowledge of Feminist Economics: Students should gain an understanding of the core concepts and chains of reasoning in feminist perspectives in economics, in particular on the causes, consequences, and policy/strategies pertaining to gender and intersectional inequalities.
- (2) Critical Analysis: Students should be able to critically analyze competing explanations of economic phenomena and policy proposals for promoting gender equality from a feminist economics perspective.
- (3) Articulation and Application: Students should be able to clearly articulate feminist economics ideas in interpreting statistics and current discussions of intersecting gender economic inequalities.

Topics

- Introduction to the course and defining feminist economics
- What is gender and why it matters in economics



- Critiques of mainstream micro and macro economics
- Critique: Undervaluation of unpaid work
- Critiques of Marxist Approaches
- Gender-Aware Measurements
- Unpaid Care Work and Time Use
- Household Bargaining
- Marriage Markets
- Labor Markets: LFP and Wage Gaps
- Occupational Segregation and Paid Care Work
- Globalization and development
- Policy Solutions

Suggested Readings

1. Danby, C. (2007). Political economy and the closet: heteronormativity in feminist economics. *Feminist Economics*, 13(2), 29-53.
2. Joey Sprague. "Chapter 2: Seeing Through Science, Epistemologies" *Feminist methodologies for critical researchers: Bridging differences*. Rowman & Littlefield, 2016.
3. Nelson, Julie. 1995. "Feminism and Economics" *Journal of Economic Perspectives* 9 (2): 131-148.
4. Power, Marilyn. 2004. "Social Provisioning as a Starting Point for Feminist Economics" *Feminist Economics* 10 (3), pp. 3-8
5. Hartmann, Heidi I. 1979. "The Unhappy Marriage of Marxism and Feminism: Towards a More Progressive Union." *Capital & Class* 3(2): 1-33.
6. Nussbaum. Martha 2003. "Capabilities as Fundamental Entitlements: Sen and Social Justice," *Feminist Economics*, 9 (2/3), July/November: 33-50.



• Semester 6th

ECO-361 MACROECONOMIC THEORY

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: INTERMEDIATE MACROECONOMICS

COURSE DESCRIPTION:

This is an advanced course of macroeconomics built on principles of macroeconomics and intermediate macroeconomics courses. There will be in depth analysis of macroeconomic theories and policies and effort will be made to make the study more realistic and applicable in real life situations relating to macroeconomic activities.

This course focuses mainly on the economy in the very long run (growth theories), towards microeconomic foundations of the macro economy, open economy, macroeconomic policy

COURSE OBJECTIVES:

1. To give students a thorough understanding of the macroeconomic system. The theoretical and empirical underpinnings of the models, conduct of monetary policy and fiscal policy in closed and open economies.
2. To provide students with the necessary mathematical tools to analyze complex macroeconomic problems.
3. To enable students to understand and analyze short-run behavior of an economy
4. To look at the role of different stabilization policies in the short-run of an economy.
5. To utilize macroeconomic theories in applied research

COURSE LEARNING OUTCOMES:

Upon completion of this course students should:

- **STRENGTHEN** grip on macroeconomic tools with a wider coverage of topics and scope of study and their application in real life situations.
- **UNDERSTAND** the main insights into the economic growth process that economists have gleaned over the past half century
- **Be ABLE** to identify applications and limitations of the macro models learned
- **IDENTIFY** the underlying causes of important economic problems and possible strategies to tackle them.
- **CRITICALLY ANALYZE** the economic events taking place around us and to evaluate government economic policies



- UNDERSTAND the complications of open economies and strengths of economies to compete in global competition.

COURSE CONTENTS

Macroeconomics: The Classical Framework

- Ingredients of the Classical model
- The Says law of markets
- The Quantity theory of money
- The Marginal Productivity theory
- Equilibrium in the goods and money markets
- A critical appraisal of the Classical model
- Dichotomy in the economy.

The Demand Management Economy

- The Keynesian framework
- Characteristics of a depression economy
- The consumption functions
- The liquidity preference function
- Wage rigidity in the labour market
- The ISLM model, Mathematical derivation of the IS and LM functions
- The interaction of the goods and money markets in a closed economy
- The role of public sector investment
- The multiplier effects of fiscal and monetary actions
- Derivation of the aggregate demand curve/function
- Stabilization and the relative effectiveness of fiscal and monetary policies
- The Neoclassical critique of the Keynesian model
- The Keynesian-Neoclassical Synthesis.
-

The Supply Side Economics

- Demand for and Supply of Labour
- The wage rate determination
- Rigidity versus flexibility of nominal wage rate
- The short-run Production function
- Derivation of Aggregate Supply under the Classical and Keynesian assumptions
- The notions of full-employment and under-employment
- Scarcity of raw material and energy
- The supply side disturbances leading to stagflation



The Open Economy Macroeconomics

- Balance of Payments: Current and Capital account
- The Managed exchange rates system
- Determinants of the Exchange Rates
- Devaluation and its impacts for countries.

Macroeconomic Policy Debate

- Policy Actions: Active or Passive
- Distrust of Policy makers and Political Process
- Macroeconomics Policy: The Fiscal, Monetary and Commercial policies
- Policy formulation and implementation in a world of uncertainty
- Monetarists vs. Activists
- The short-run and long-run analysis of the Phillips Curve.

Growth and Business Cycles

- The accumulation of capital
- Acceleration principle and the concept of steady state growth path
- The steady state conditions
- The role of technical progress in growth
- Introduction to the theory of Real Business Cycles.

RECOMMENDED BOOKS

- Abel, Andrew, B., Bernanke, Ben S. & Croushore, D. Macroeconomics, Seventh Edition. Addison-Wesley.
- Froyen, Richard—Macroeconomics: Theories and Policies – 7 Edition (2002) Prentice Hall
- Branson, William – Macroeconomics: Theory and Policy – 3 Edition (1989) or latest Harper and Row, New York.
- Scarth, William, M – Macroeconomics: An Introduction to Advanced methods- 2 (1996)- Dryden Press: Harcourt Brace & Company.
- Gupta, G.S.- Macroeconomics: Theory and Applications- 2 Edition (2004) Tata McGraw Hill Publishing Company, New Delhi
- Romer, David - Advanced Macroeconomics -(2001)- McGraw Hills, New York.
- Mankiw, Gregory- Macroeconomics- 5 Edition (2003)- Worth Publisher, New York.
- Scarth, William, M – Macroeconomics: An Introduction to Advanced methods- 2 (1996)- Dryden Press: Harcourt Brace & Company.
- Romer, David - Advanced Macroeconomics -(2001)- McGraw Hills, New York.
- Mankiw, Gregory- Macroeconomics- 5 Edition (2003)- Worth Publisher, New York.



ECO-362 PUBLIC FINANCE

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

Course Description

Public Finance explores government roles in the economy, focusing on taxation, public expenditure, and fiscal policy. It examines how governments allocate resources, address market failures, and impact economic outcomes.

Course Objectives

1. Understand Public Sector Role: Analyze government functions in economic resource allocation.
2. Examine Fiscal Policy Tools: Study taxation, public spending, and their economic impacts.
3. Address Market Failures: Look at government interventions for externalities and public goods.
4. Analyze Budgeting and Debt: Explore public budgeting processes and government debt management.
5. Evaluate Policy Effectiveness: Assess impacts of fiscal policies on economic stability and growth.

Learning Outcomes

By the end of this course, students will:

1. Apply Public Finance Concepts: Use theories to analyze real-world fiscal policy issues.
2. Assess Taxation Systems: Understand impacts of different tax structures.
3. Evaluate Public Expenditure: Analyze government spending patterns and effects.
4. Understand Fiscal Federalism: Examine intergovernmental fiscal relations.
5. Develop Analytical Skills: Apply public finance tools to policy analysis and decision-making.

COURSE CONTENTS

Introduction

- The State and the Economy
- The Rationale for State Intervention

Fundamentals of Welfare Economics

- Market Efficiency
- Market Failure
- Efficiency and Equity

Analysis of Public Expenditure

- Public Goods
- Public Choice
- Public production and Bureaucracy
- Externalities



- Cost Benefit Analysis

Expenditure Programmes

- The Analysis of Expenditure Policy
- Cost Benefit Analysis

The Theory of Taxation

- Introduction to Taxation
- Tax Incidence
- Taxation and Economic Efficiency
- Optimal Taxation

Selective Topics

- Public Finance in a Federal System
- Deficit Finance

RECOMMENDED BOOKS

- Rosen Harvey S, Public Finance. McGraw Hill.
- Rosen Harvey S and Gayer Ted, Public Finance. McGraw Hill.
- Musgrave R. and P. B. Musgrave, Public Finance in Theory and Practice
- Stiglitz J. S, Economics of the Public Sector Norton, and Company.

ECO-363 Course Title: Basic Econometrics

Course Code: ECO-363

Credit Hours: 3 (3-0)

Pre-requisites: Statistics or Basic Mathematics

Course Description

This course introduces students to the fundamental concepts, tools, and techniques of econometric analysis. Emphasis is placed on understanding the classical linear regression model, diagnosing model issues such as heteroscedasticity and multicollinearity, and interpreting regression results using real-world economic data.

Course Objectives

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

1. Understand the scope and relevance of econometrics in economic research.
2. Apply simple and multiple regression techniques using Ordinary Least Squares (OLS).



3. Evaluate the assumptions underlying econometric models and detect violations.
4. Identify and address issues like heteroscedasticity, autocorrelation, and multicollinearity.
5. Interpret and critically assess econometric results.

Course Content

1. Introduction to Econometrics

- Why study econometrics?
- Methodology and types (theoretical, applied, micro, macro)
- Data types and sources (cross-section, time series, panel)

2. Simple Linear Regression (SLR)

- Population and sample regression functions
- OLS estimation and interpretation
- Classical assumptions and their implications
- Goodness-of-fit: R^2

3. Multiple Linear Regression (MLR)

- Extension to multiple explanatory variables
- Adjusted R^2 and interpretation
- Hypothesis testing: t-tests, F-tests
- Assumptions and limitations

4. Model Specification and Errors

- Specification errors and consequences
- Endogeneity: causes and effects
- Model selection criteria (e.g., AIC, BIC)

5. Multicollinearity

- Nature and symptoms
- Causes and consequences



- Detection methods (VIF, correlation matrix)
- Remedial measures

6. Heteroscedasticity

- Nature of the problem in cross-section data
- Detection: graphical methods, Breusch-Pagan test
- Consequences and remedies (e.g., robust SEs)

7. Autocorrelation

- Nature and causes in time series data
- Detection: Durbin-Watson test
- Effects on OLS estimators
- Remedies: transformation, GLS (intro only)

8. Application and Interpretation

- Review of a published empirical study
- Hands-on data analysis using Excel/EViews/Stata
- Presentation of results and interpretation

Recommended Textbooks

1. **Gujarati, D. N.** *Basic Econometrics*, McGraw-Hill.
2. **Dougherty, C.** *Introduction to Econometrics*, Oxford University Press.
3. **Wooldridge, J. M.** *Introductory Econometrics: A Modern Approach*, South-Western.
4. **Stock, J. H. & Watson, M. W.** *Introduction to Econometrics*, Pearson.
5. **Hill, R.C., Griffiths, W.E. & Lim, G.C.** *Principles of Econometrics*, Wiley.

ECO-364 ENVIRONMENTAL ECONOMICS

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE CONTENTS

Introduction

- An introduction to environmental economics
- Economy–environment interdependence



- Main environmental problems
- Environmental economics: An overview.

Reasons of Studying Environmental Economics

- Market failures, externalities
- Imperfect competition
- Public vs. private goods
- Property rights and open access resources.

Economic Efficiency and Social Efficiency

- Review of basic concepts
- Economic approach and economic efficiency
- Social decision making and socially efficient level.

Externalities

- Private costs and benefits
- Social costs and benefits
- External costs and benefits
- Partial welfare analysis of external effects
- Benefits and costs of environmental resources
- Regulation of external effects.

Environmental Pollution and Control Mechanisms

- Pollution control: targets
- Pollution flows and stocks
- Privately and socially efficient level of pollution
- Pollution control: Instruments.

Command and control instruments

- Economic (market based) instruments
- Institutional instruments
- Instruments: taxes, subsidies, tradable permits Pigouvian taxation.

Criteria for evaluating environmental policies

- Cost efficiency and cost effectiveness.

Economic Valuation

- Concepts and measurement of value for decision making
- Direct method of valuation and indirect method of valuation
- Contributions of non-market valuation methods,
- Hedonic models.

Sustainability and Development

- Limits to growth
- The origins of the sustainability problem
- The pursuit of sustainable development.

Input-Output Analysis, Technology and Environment

- Origin, derivation, and usefulness of the model.

Global Environmental Problems

- Global environmental problems
- Role of international environmental treaties in control of global pollution.



RECOMMENDED BOOKS

- Nick Hanley, Jason F. Shogren and Ben White. Environmental Economics in Theory and Practice, (2nd edition), Palgrave Macmillan.
- Perman, R., Yue M., Common M., Maddison, D., and McGilvray, J. (2011). Natural Resource and Environmental Economics, (4th Edition), Pearson Addison Wesley.
- Field, B. and Field, M. (2002). Environmental Economics: An Introduction, Boston, McGraw Hill.
- Tietenberg, T.H., and Lewis, L. (2012). Environmental and Natural Resource Economics, (9th Edition), Pearson Addison Wesley.

ECO-365 POVERTY & INCOME DISTRIBUTION

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE OBJECTIVES:

1. To explain the distributional aspects of national income
2. To familiarize students with the effects of poverty and income inequality
3. To understand the technical issues in the measurement of poverty and inequality

COURSE CONTENTS:

1. Introduction:

- The concept of poverty, inequality & well-being
- Correlation between inequality & poverty
- Consequences of inequality & poverty
- Determinants / sources of poverty and inequality

2. Issues in the Measurement of Poverty & Inequality:

- Unit of well being
- Unit of measurement
- Sampling procedure
- Problems of grouped and survey data
- Issue of relative purchasing power

3. Empirical Analysis of Poverty:

- Defining and estimating poverty Lines
- Poverty measures
- Desirable qualities of good poverty measure



- Rigid and adjustable measures
- Sub group poverty analysis
- Welfare Interpretation of poverty measures
- Multidimensional Poverty (concept and measurement)

4. Empirical Analysis of Inequality

- Approaches to measure inequality
- Desirable qualities of good inequality measure
- Classification of inequality measures and details
- Decomposition of inequality

5. Empirical Analysis of Welfare

- Approaches to measure welfare
- Desirable qualities of good welfare measure
- Classification of welfare measures and details
- Decomposition of welfare

6. Issues in Poverty and Inequality:

- Migration, inequality and poverty
- Fiscal measures, inequality and poverty
- Economic development, Inequality and poverty
- Globalization, inequality and poverty

7. Poverty and Inequality in Pakistan:

- Time series Analysis of inequality, welfare and poverty
- International comparison

TEXT AND REFERENCE BOOKS:

- Cowell F.A. Measurement of Inequality, STICERD, London School of Economics and Political Science, London (2000)
- Anand S. Inequality and Poverty in Malaysia, Measurement and Decomposition, A World bank Research Publication, Oxford University Press. (1983)
- Kakwani, N. Income Inequality and Poverty: Methods of Estimation and Policy: Applications, A World bank Research Publication, Oxford University Press. (1980).

Course Title: Political Economy

ECO-366

Credit Hours: 3 (3-0)



Contact Hours: 3-0

Pre-requisites: None

Course Description

This course explores the interaction between political and economic institutions and processes. It equips students with analytical tools to understand the role of politics in economic decision-making and the influence of economic interests on political behavior. The course contextualizes theories within global and national case studies, with a special focus on Pakistan.

Course Objectives

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

1. Understand foundational concepts in political economy.
2. Analyze how political institutions and economic structures interact.
3. Evaluate the political economy of global and regional integration.
4. Examine how political forces shape economic policies in developing countries.
5. Critically assess the political economy of Pakistan in light of governance, reforms, and structural challenges.

Course Content

1. Foundations of Political Economy

- Definitions, evolution and core concepts
- Key thinkers: Adam Smith, Karl Marx, Keynes
- Institutions and their role in economic policymaking
- Political and economic integration

2. The Global Political Economy

- Globalization: definitions, debates and impacts
- Role of international institutions (IMF, World Bank, WTO)
- Neoliberalism and global inequality



3. Regional Political Economy

- Regionalism vs. Globalization
- EU Integration and Brexit
- Economic and political blocs: ASEAN, SCO, GCC, OPEC, SAARC

4. Development and Political Economy

- The politics of economic development
- Transfer of technology and dependency theory
- Agriculture, industry, and the state
- Foreign aid, investment, and trade: benefits and critiques

5. Political Economy of Pakistan

- Elite capture, patronage and resource distribution
- Land reforms, privatization, and nationalization
- Economic strategies of political regimes
- Centre-provincial fiscal relationships: NFC and PFC awards
- Civil-military relations and economic policy

6. Contemporary Issues and Case Studies

- The informal economy
- Political economy of climate and environment
- Case studies on Pakistan and selected developing countries

Recommended Readings

Core Texts:

- Azhar, H. Nadeem. *Pakistan: The Political Economy of Lawlessness* (OUP, 2012)
- Ahmed, Vaqar. *Pakistan's Agenda for Economic Reform* (OUP, 2017)
- Gupta, S. Dev. *The Political Economy of Globalization* (Kluwer, 1997)

Supplementary:

- Hagen, Everett E. *The Economics of Development* (1980)



- Kardar, Shahid. *The Political Economy of Pakistan* (1987)

ECO-367 POPULATION ECONOMICS

Credit Hours: **3 (3-0)**

Contact Hours: **3-0**

Pre-requisites: **None**

COURSE CONTENTS

Introduction

- Understanding Demography, Scope and Nature
- Importance of Demography in Economic Planning
- Sources of Demographic Data
- Processes of Demography
- Pakistan's Demographic Profile: An Overview

Theories of Population

- Mercantilist Perspective
- Malthusian Theory of Population
- The Marxist Perspective
- John Stuart Mill
- Easterlin's Hypothesis
- Becker's Economic Theory of fertility
- The Theory of Demographic Transition
- Theory of Relative Income

Fertility

- Understanding the Concept
- Measuring Fertility
- Period Measures of Fertility
- Cohort Measures of Fertility
- Fertility Trends (Global and Regional Comparisons)
- Fertility & Population Growth in Pakistan



Mortality

- Components of Mortality
- Measuring Mortality
- Differentials in Mortality
- Estimates and Trends of Mortality in Pakistan

Migration

- Definition & Measurement
- Causes of Migration (Push and Pull factors)
- Internal Vs International Migration
- Individual & Social Consequences of Migration
- Migration Trends in Pakistan: Causes & Consequences

Population Composition: Age & Sex Composition

- Measuring the Age Composition
- Measuring the Sex Composition
- Impact of Population Processes on the Age Composition
- Impact of Age Composition on Population Processes
- The Dynamics of Age/Sex Compositions; Age-Stratification Theory

Population Growth & Ageing

- Demographic Composition of the Elderly
- Biological, Economic & Social Aspects of Aging
- Implications for the Society

Urbanization

- Demographic Components of Urbanization
- Internal Rural-to-Urban Migration
- Impact of Population Processes and Urbanization in Pakistan

Population Policy

- Need and objectives of Population Policy



- Influencing Population Processes
- Case Studies of Pakistan

RECOMMENDED BOOKS:

- Weeks J. R, Population. An Introduction to Concepts and
- Issues (latest edition). Wadsworth Publishing Company,
- USA.
- Poston D. L.& L. F. Bouvier. Population and Society: An Introduction to
- Demography, (latest edition), Cambridge University Press, UK
- Ayesha Khan, (Ed) Population Challenges in Pakistan.
- Government of Pakistan National Population Policy Documents.



Semester 7th

ECO-471 ADVANCED ECONOMETRICS

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: Basic Econometrics / Introduction to Econometrics

Course Description:

This course deepens understanding of econometric methods by focusing on advanced estimation techniques for nonlinear models, panel data, qualitative response models, simultaneous equations, and time-series econometrics. Emphasis is placed on theoretical understanding and practical application using modern econometric software (e.g., EViews, Stata, R).

Course Objectives:

Upon successful completion of this course, students will:

1. Develop a rigorous understanding of nonlinear and limited dependent variable models.
2. Learn how to apply panel data techniques for economic research.
3. Understand and estimate simultaneous equation models using appropriate methods.
4. Gain expertise in time-series analysis, including ARIMA and ARDL frameworks.
5. Apply econometric models using software and interpret empirical results accurately.

Course Content

1. **Nonlinear Regression Models**
 - Intrinsically linear vs. nonlinear models
 - Estimation techniques (Gauss-Newton, NLS)
2. **Qualitative Response Models**
 - Linear Probability Model (LPM)
 - Logit, Probit, Tobit models
 - Grouped and ungrouped data estimation
3. **Panel Data Econometrics**
 - Pooled OLS, Fixed Effects, Random Effects



- Hausman Test
- LSDV method

4. Practical Week / Lab Application

- Software session (EViews/Stata)
- Estimation of logit/probit and fixed/random effects models using datasets

5. Simultaneous Equation Models

- Identification (order and rank conditions)
- Indirect Least Squares, Two-Stage Least Squares (2SLS), Instrumental Variables

6. Time-Series Econometrics – Part 1

- Stationarity, Unit Root Tests (ADF, PP)
- Transforming Non-stationary data

7. Time-Series Econometrics – Part 2

- AR, MA, ARMA, ARIMA models
- Model identification and diagnostics

8. Vector and Structural Models

- VAR Models
- Impulse Response Functions

9. ARDL Bounds Testing Approach

- Cointegration techniques
- Long-run and short-run dynamics

10. Review & Term Project Submission / Presentations

Recommended Textbooks

1. Wooldridge, J. M. (Latest Ed.). *Econometric Analysis of Cross Section and Panel Data*. MIT Press.
2. Hill, Griffiths, & Lim. *Principles of Econometrics*. Wiley.
3. Gujarati, D. N. *Basic Econometrics*. McGraw-Hill.
4. Stock, J. H., & Watson, M. W. *Introduction to Econometrics*. Pearson.
5. Dimitrios, A., & Hall, S.G. *Applied Econometrics: A Modern Approach Using EViews*. Palgrave Macmillan.



ECO-472 RESEARCH METHODOLOGY

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE DESCRIPTION:

This course is designed to enable the students to understand the basics of research and its process adopted in field of economics, which include the research fundamentals, research design, literature review, data sciences, sampling, data analysis and thesis/ report writing

COURSE OBJECTIVES:

By the end of this course following Bloom's Taxonomy the students shall be able:

1. To understand the research process followed in economics.
2. To apply research techniques for analysis of economic problems.
3. To familiarize the students to identify the researchable issues in the economy.
4. To equip the students with basic research techniques of data collection, analysis, writing and presentation.

COURSE LEARNING OUTCOMES:

By studying this course the students shall be able to:

- IDENTIFY economic problems and analyze them by using scientific process of empirical inquiry in economics discipline.
- ACQUIRE UNDERSTANDING about conducting research in economics based on certain economic issue.
- DESCRIBE the research question; explore the strengths of various methods, and techniques to address the stated problem.
- APPLY different computational techniques to analyze the data.

COURSE CONTENTS:

1. Introduction

- Basic Concepts, Definitions, Terminologies

2. Research types and designs

- Research Types; Advantages and disadvantages of different research types
- Research designs; Advantages and disadvantages of different designs

3. Literature review

- Formats, Finding research journals, journals by ranking, themes etc.
- Review styles; Summary of each paper vs. review of many papers under one theme [thematic review]
- Gap finding



4. Sampling

- Types of sampling
- Methods of sampling
- Determining the sample size
- Handling the issues

5. Data Sciences

- Data types: primary and secondary, Qualitative and Quantitative, Cross sectional, Time Series and panel data

6. Data analysis

- Descriptive analysis, Regression, Data Visualization

7. Thesis /Report writings

- Elements of thesis / report; Abstract, Introduction, Review of Literature, Framework of Analysis, Estimation, Results and discussion, and Conclusion.
- References; APA, AMA, MLA and other formats
- Plagiarism and its outcomes to researchers.

TEXT AND REFERENCE BOOKS:

- Kothari, C.R. *Research Methodology: Methods and Techniques*, New Delhi, Wiley Eastern Limited. Latest Edition.
- Dawson, Catherine *Practical Research Methods*, New Delhi, UBS Publishers, Latest Edition.
- Kumar, Ranjit. *Research Methodology: A Step by Guide for Beginners*, Second Edition, Singapore, Pearson Education. Latest Edition.
- Etheridge Don E. *Research Methodology in Applied Economics: Organizing, planning and Conducting Economic Research*, 2nd Edition. Blackwell Publishing

INT -473 INTERNSHIP

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

Course Description

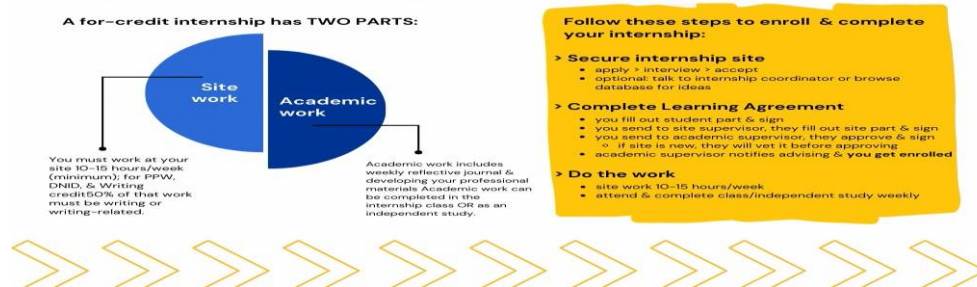
An internship in the context of a Bachelor's degree in Economics typically refers to a structured and supervised work experience that students undertake as part of their academic curriculum. It provides



students with the opportunity to gain practical, real-world experience in the field of economics while still completing their degree.

Prerequisite(s): Departmental Approval.

Duration: 6-8 weeks



ECO-473 Applied Economics

Credit Hours: 03

Prerequisite: Advanced Microeconomics, Advanced Macroeconomics, Mathematical Economics-I and Econometrics-II

Course Objectives:

The course aims to equip students with practical skills in applying economic theories through data analysis and model building. It focuses on identifying economic problems, developing models, and estimating them using software like SPSS, E-Views, and STATA. Students will learn to conduct demand, supply, and production function analysis, as well as project appraisal and cost-benefit analysis. Emphasis is placed on interpreting results, drawing policy-relevant conclusions, and improving research writing. The course prepares students for empirical economic research and evidence-based decision-making.

Course Learning Objectives

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

1. Understand and apply core concepts of applied economics through empirical data analysis.
2. Formulate relevant economic research problems and construct economic models.
3. Estimate production, demand, and supply functions using econometric software tools (SPSS, E-Views, STATA).



4. Conduct econometric modeling, including single, multiple, and simultaneous equations.
5. Carry out cost-benefit analysis, project appraisal, and policy simulations.
6. Interpret empirical findings and provide policy-relevant insights based on model estimations.
7. Demonstrate competency in using econometric software for advanced data analysis.
8. Improve research writing skills including result interpretation, policy suggestion, and referencing.

Course Contents

Introduction

Introduction to Applied Areas, Selection of topic, Defining the problem statement, writing literature, Building Economic model. Selection of variables for economic model.

Estimation of Production Function

Use of Computer, SPSS, E-Views to Estimate Production Functions. Cob-Douglas Production Function, Constant Elasticity Production Function etc.

Computer Applications: Demand, Supply and Equilibrium

Estimation of Demand and Supply using E-Views/SPSS. Aggregate Demand, Aggregate Supply and Equilibrium.

Model Building and Estimation

Building Simple Econometric Models and Estimation. Single Equation Models, Multiple / Simultaneous Equation Model. Interpretation of Computer

Project Appraisal and Computer Application

Use of Computer Programming (Softwares), E-Views etc. for Cost-Benefit Analysis, Estimation of Present Values, Estimation of Economic and Social Benefits. Project Appraisal Using E-Views etc. Estimation of Cost Functions and Decision Making.

Econometric Analysis and Computer Applications

Regression Functions. Estimation with Qualitative Variables Confidence Interval and Hypothesis Testing. Estimation and Improving Model Estimates: Autocorrelation, Estimation of simultaneous Equations. Estimation of VAR and ARIMA Models.

Results and Discussions

Types of results, interpretation and discussion of results, how to conclude results, policy suggestions, referencing.

Recommended Books:

- E-Views Manual (Learning help available with package (Software)). Gimi, Carter and Annette, Marquis, with Karl Browning, Mastering Microsoft
- Office XP Premium, Selection B.P.B., Publishers, New Delhi, 2001.
- D. F. Robertson, Computer Applications and Programming, USA: Har Brace Jovanovich Inc., Latest edition.
- SPSS-Manual.



ECO-474 URBAN ECONOMICS

Credit Hours: **3 (3-0)**

Contact Hours: **3-0**

Pre-requisites: **None**

COURSE DESCRIPTION:

This course is an introduction to urban economics. The focus will be on the main economic forces that lead to the existence of cities and regional clusters. It covers variety of topics including urbanization, housing, pollution, urban poverty and crime.

COURSE OBJECTIVES:

The basic objectives of this course are:

1. To analyze the economic forces that lead to the existence of cities and regional clusters,
2. To study the factors of local selection for firms and workers,
3. To study the economics of urban problems such as crime, poverty and insufficient housing,

COURSE LEARNING OUTCOMES:

Upon successful completion, the students should be able to:

UNDERSTAND the mechanism of the emergence of cities and regional clusters

IDENTIFY the root cause of regional disparities

KNOWLEDGE on role of local government in provision of public goods

COURSE CONTENTS:

1. Introduction

- Definition, Scope, and Importance
- Emergence and existence of cities
- Clustering of firms and workers
- Expansion and growth of cities

2. Land Rent and Land Use Patterns

- Urban land rent



- Land use patterns
- Neighborhood choice

3. Urban Size and Growth

- Population growth
- Life expectancy rate
- Mortality rate

4. Policy Topics

- Education and crime
- Transportation
- Housing
- Local Government
- The role of local government
- Local government revenue

5. Global Urbanization Trends

- Megacities
- Rural- Urban migration patterns worldwide

6. Urbanization Trends in Pakistan

- Expansion of Big cities
- Causes and consequences of unplanned urban expansion
- Urban issues in Pakistan

TEACHING METHODOLOGY:

- Lectures
- In Class Activities
- Group Discussion
- Guest Lectures (optional)
- Term Paper (optional)

ASSESSMENT:

Mid Term Evaluation: 50%



(Sessional Examination, Quizzes, Assignments, In-Class Activities)

Final Examination: 50%

Note: The major share in mid-term evaluation will be of sessional examination.

The share of mid-term evaluation and final examination can be 40:60 or 60:40, as approved by statutory bodies of university.

TEXT AND REFERENCE BOOKS:

1. Aurther O'Sullivan, Urban Economics, (latest edition), McGraw Hill Education.
2. John F. McDonald , Fundamentals of Urban Economics (latest edition), Prentice Hall
3. Dr. Noman Ahmad, Urban Land Housing in Pakistan issues and policy responses

ECO-475 ISSUES IN WORLD ECONOMY

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE DESCRIPTION

This course offers a comprehensive analysis of various issues of global economy within the field of International Economics. It investigates the phenomenon of global economy and seeks to provide understanding of today's increasingly interdependent world. This course recognizes that economy cannot be treated separately from other domains of social studies so such topics as political economic theories and models, historical context, cultural phenomenon, role of information and communication technologies, and others will be discussed.

COURSE OBJECTIVES:

The basic objective of this course is to focus on major global economic issues that characterize the state of our current world. This course aims to give students a deep and a comprehensive understanding of what global economy is and how to manage domestic economy in the context of a



dynamic global economy. This course introduces and critically examines the processes involving the increasing interconnection of the world and its effects on people's lives. The course provides an interdisciplinary perspective on major concepts in order to make sense of the changes taking place at a global scale. It also explores existing debates and case studies in order to illustrate the ongoing challenges that communities face.

COURSE LEARNING OUTCOMES:

Upon successful completion of the course, the student will:

- **LEARN** fundamentals regarding the dynamics of the global economy. They will explore characteristics of capitalist and socialist economies; examine new trends in global economy.
- **Be AWARE OF** data relating to global economic performance and will be able to interpret what they show.
- Have good **KNOWLEDGE** of the evolution of the world's monetary and trading systems.
- Be able to apply this theory to investigate and better understand contemporary world economic issues.

COURSE CONTENTS

1. Economic Geography: An Introduction
2. The Historical Development of Capitalism
3. Population
4. Resources and Environment
5. Theoretical Considerations
6. Agriculture
7. Manufacturing
8. Services
9. Transportation and Communications
10. Cities and Urban Economies
11. Consumption
12. International Trade and Investment
13. International Trade Patterns
14. Development and Underdevelopment in the Developing World



TEACHING METHODOLOGY:

- Lectures
- In Class Activities
- Written Assignments
- Group Discussion

ASSESSMENT:

- Mid Term Evaluation: 30%
- (Sessional Examination, Quizzes, Assignments, In-Class Activities) 20%
- Final Examination: 50%

TEXT AND REFERENCE BOOKS

- Stutz, F. P., & De Souza, A. R. (1998). The world economy: Resources, location, trade, and development. Prentice Hall.
- Stiglitz, J. E. (2002). Globalization and its Discontents. New York.
- Dicken, P. (2007). Global shift: Mapping the changing contours of the world economy. SAGE Publications Ltd.
- Rosser, J. B., & Rosser, M. V. (2018). Comparative economics in a transforming world economy. MIT Press.
- Freidman, T. (2005). The world is flat. New York: Farrar, Straus and Giroux.
- Bhagwati, J. (2007). In defense of globalization: With a new afterword. Oxford University Press.
- Stiglitz, J. E. (2008). Making Globalization Work. WW Norton & Company.

ECO-476 GENERAL EQUILIBRIUM AND WELFARE ECONOMICS

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: Intermediate Microeconomics

COURSE DESCRIPTION:



In this course, we extend the partial equilibrium analysis, studied in the basic microeconomics, to general equilibrium. Alternatively, here we study the equilibrium and their welfare consequences in case of many markets where the allocation of resources results from the interaction of several economic agents (consumers and producers). The basic structure is based the competitive forces with no externality and no information asymmetry accompanied by rational individuals (utility maximization of consumers and profit maximization of producers). The maximization behaviour of individual economic agents occur in such a way that all markets clear in a simultaneous way.

Second, the course includes the theory of social choice and welfare ranging from the measurement of welfare to the fundamental theorems of welfare. After the completion of course, the student should be able to understand the framework of general equilibrium and its welfare characteristics.

COURSE OBJECTIVES:

1. To Provide an Overview to Students how the Overall Economic System Works
2. To Introduce the Basic Concepts and Techniques related to the Equilibrium in the Overall Economy
3. To show the Welfare Characteristics of Overall Economy
4. To Show the Students some Applications of General Equilibrium Theory

COURSE LEARNING OUTCOMES:

Upon successful completion of the course, the students will be able:

- UNDERSTAND the aggregation of individual Preferences into Aggregate Preferences?
- IDENTIFY the interaction of Several Markets at the Same Time Work
- To APPLY the theory of General Equilibrium in Alternative Economic Structures

COURSE CONTENTS

1. Introduction to General Equilibrium

Complete Markets, Spot Market vs Forward Market, Partial versus general equilibrium, the Walrasian System, Exchange Economy, Production Economy

2. Exchange Economy

General equilibrium of Pure Exchange Economy, The Edgeworth Box Diagram, Offer Curves, Existence, Uniqueness and Stability of Equilibrium, Mathematical and Graphical Representation of General Equilibrium, Pareto Efficiency in Exchange Economy, Contract Curve, Core in Exchange Economy, Interaction between Equilibrium, Pareto Efficiency and Core

3. Production Economy

General equilibrium of production and consumption; A Robinson Crusoe Economy: One Consumer and One Producer Economy, Equation of Contract Curve, Production Possibility Frontier, ISO Welfare Line, Pareto Efficiency in Robinson Crusoe Economy; General equilibrium in the two-sector model; The Production Economy in Edgeworth Box: 2x2 Model, Pareto Efficiency in 2x2x2 economy, general equilibrium and allocation of resources, Extension of the simple general equilibrium model to any number of Consumers, producers and factors

4. Application of General Equilibrium Theory



some applications like Heckscher-Ohlin Theory of Trade, Stolper Samuelson Theorems, Problems of the general equilibrium model

5. Welfare Economics

Meaning of welfare, measurement of social welfare, Utility Possibility Set, Social Welfare Function, Pareto Optimality, Theory of Social Choice, the Majority Rules, Condorcet's Paradox, Borda Count, Arrow's Impossibility Theorem, Maximization of social welfare, Welfare maximization and perfect competition, the First Fundamental Theorem of Welfare, the Second Fundamental Theorem of Welfare, Monopoly, Externalities, imperfect information, public goods, Some Criticism, Extension and Policy implication

TEXT AND REFERENCE BOOKS:

1. James C Moore, General Equilibrium and Welfare Economics: An Introduction (latest edition), Springer.
2. Layard, P.R.G and Walters, A.A Microeconomic Theory, Latest Edition.
3. Mas-Colell, Andreu, Michael D. Whinston, and Jerry R. Green. Microeconomic Theory
4. Eugene Silberberg and Wing Suen. "The Structure of Economics: A Mathematical Analysis



Semester 8th

ECO-481 INTERNATIONAL ECONOMICS

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

Course Description

International Economics examines economic interactions between nations, focusing on trade theories, policies, and international monetary systems. It explores gains from trade, protectionism, exchange rates, and global economic integration.

Course Objectives

1. Understand Trade Theories: Study comparative advantage, Heckscher-Ohlin model, and new trade theories.
2. Analyze Trade Policies: Examine tariffs, quotas, and other trade policy instruments.
3. Explore International Monetary Relations: Look at exchange rate systems, balance of payments, and international financial institutions.
4. Assess Globalization and Integration: Discuss economic integration, regional trade agreements, and globalization issues.
5. Evaluate Policy Issues: Analyze international economic policy debates and challenges.

Learning Outcomes

By the end of this course, students will:

1. Apply Trade Theories: Understand bases and gains from international trade.
2. Analyze Trade Policy Impacts: Assess effects of tariffs, subsidies, and trade agreements.
3. Understand Exchange Rate Dynamics: Grasp exchange rate determination and implications.
4. Examine Balance of Payments: Analyze international transactions and balance of payments issues.
5. Evaluate Global Economic Issues: Discuss globalization, trade disputes, and international economic cooperation.



6. Develop Analytical Skills: Apply international economics concepts to real-world policy analysis.

COURSE CONTENTS

Introduction

- International Economics and Economic theory
- The subject matter of International Economics
- Importance of international trade in the changing world

Theories of International Trade

- History of International trade, pre-classical theories of international trade-Mercantilism, and Physiocracy.
- Classical theories of International Trade - absolute advantage, comparative advantage, and reciprocal demand
- Neo-Classical theories of international trade- Opportunity cost theory
- Modern Theory of International Trade- H-O Theory, H-O-S Hypothesis
- Leontief Paradox. Alternative theories of trade-Human Skills. Technology and product cycle theories. Use of indifference curves, offer curves, and box diagrams for exposition of trade theory

International trade Policies

- Free trade vs protected trade
- Objectives of commercial policy
- Instruments of trade policies- tariff barriers, non-tariff trade barriers
- GATT, WTO

Trade policies in Developing countries

- Import substituting Industrialization
- Export oriented Industrialization

Economic integration

- Types and reason of economic integration
- The theory of customs union, static and dynamic effects of custom unions. Economic integration among the countries- EU and SAARC

The foreign Exchange Markets

- Definition and Functions
- Hedging and Speculation
- Types and determination of exchange rate

The Balance of Payments

- Balance of payments accounting
- Features of balance of payments.
- Components of balance of payments.



- Measuring the deficit or surplus of balance of payment

RECOMMENDED BOOKS

- Salvatore, D. International Economics, (latest edition). Wiley Global Education.
- Krugman, P. R. International Economics: Theory and policy, (latest edition), Pearson Education India.
- Francis Cherunilam. International Economics, (latest edition), The McGraw-Hill Companies

CP-482 CAPSTONE PROJECT

Credit Hours: 3 (3-0)

Pre-requisites: None

Course Description

A research project for a Bachelor of Science (BS) final semester is typically an in-depth investigation into a specific topic within the chosen field of study. The purpose of such a project is to provide students with an opportunity to apply their theoretical knowledge and research skills to a real-world problem or question, thereby enhancing their understanding of the subject matter and preparing them for future academic or professional pursuits. Research projects at this level often require students to demonstrate their ability to gather, analyze, and interpret data, as well as to communicate their findings effectively.

Report Evaluation

- a. The Research Report will be assessed by two examiners (one of them will be the supervisor and the second will be an external examiner). Or as per the university directives in vague.

Formatting: APA

ECO-482 PROJECT APPRAISAL AND INVESTMENT ANALYSIS

Credit Hours: 3 (3-0)

Contact Hours: 3-0

Pre-requisites: None

COURSE CONTENTS

Introduction

Meaning of Project Appraisal, usefulness and significance

- Aspect of project appraisal with a special focus on economic versus financial analysis
- Contours and Dimensions of a project and its essential Ingredients
- Project Vs. Plans
- Project Cycle

Project Cycle

- Phases of Project Cycle



- Identification
- Feasibility Report
- Preparation
- Appraisal
- Implementation and Evaluation

Project Identification

- Sources of Project Identification
- Steps of Project Identification

Feasibility Report & Project Planning

- Dimensions of a Feasibility Study
- Problems in Project Preparation
- Linking Projects to Resources

Project Appraisal

- Purpose of Project Appraisal
- Aspects of Project Appraisal: Technical, Managerial, Commercial, Financial and Economic Economic analysis in detail with pricing of inputs and output
- Identification and discounting of costs and benefits
- Techniques of project appraisal; undiscounted and discounted techniques
- Sensitivity analysis

Project Approval

- Rules of project approval

Project Implementation

- Monitoring Indicators
- Kinds of monitoring
- Monitoring and reviewing techniques

Project Evaluation

- Significance & Purpose
- Types and indicators of evaluation.

RECOMMENDED BOOKS

- Broadmanet al. Cost Benefit Analysis: Concepts and Practices, Prentice Hall International (latest edition)
- Manual for Development Projects, Project Wing, Planning & Development Division, Islamabad. (Latest edition)

ECO-483 DEVELOPMENT POLICY

Credit Hours: 3 (3-0)



Contact Hours: 3-0

Pre-requisites: Development Economics

COURSE DESCRIPTION

This course will provide a review of development theories and empirical evidences on the major drivers of economic development including growth, geography, institutional quality, resource abundance and culture. The focus here is to spell out various policy options and to evaluate their effectiveness in dealing with the developmental issues of developing countries.

COURSE OBJECTIVES

1. To explore and debate development issues and policies
2. To present an overview of the existing evidence in designing policies for developing countries

COURSE LEARNING OUTCOMES

Upon Successful Completion, the students should be able to:

- UNDERSTAND and critically assess the mainstream economic literature relating economic development
- ASSESS and formulate development policies and develop critical thinking
- DEMONSTRATE the empirical approaches to understand the process of development

COURSE CONTENTS

1. What is Development?

- Describing and analyzing the development landscape of developing countries
- Evolving thinking on development
- Endogenous and exogenous theories of growth, convergence
- Inclusive growth, human development
- Why some countries are rich and others poor?
- East Asian miracles and China

2. Growth and Development

- Millennium Development Goals (MDGs)
- Sustainable Development Goals (SDGs)
- Human Development paradigm for development: Beyond growth in income
- Pakistan's progress, Dimensions of development, Development policy beyond MDGs

3. Development policy and Governance

- Role of Institutions in Development
- Governance and Corruption
- Globalisation and Changing Role of State

4. Global Influences on Development Policy



- Policy debate on foreign aid, Pros and cons, and channels of foreign aid
- Trade and International Finance,
- World Trade Organisation (WTO)

5. Poverty and Inequality

- Defining and measuring poverty, inequality
- Policies to manage poverty
- Income distribution and social welfare
- Middle-income trap,
- Vulnerability, trickledown effect
- Employment and Income Distribution
- Social Entrepreneurship, Role of Microfinance in poverty alleviation

6. Education and Healthcare

- The role of primary, secondary, tertiary and vocational education in development
- Human Capital Accumulation and Human Development Index

7. Environment and Sustainable Development

- Food security
- Agricultural Market Interventions and Reforms
- Agricultural Research and Extension
- Water Scarcity and Management
- Mineral Resources and their Exploitations

8. Migration, Urbanization, Issues facing Megacities

TEACHING METHODOLOGY

- Lectures
- In Class Activities
- Group Discussion
- Guest Lectures (optional)
- Term Paper (optional)

ASSESSMENT:

- **Mid Term Evaluation: 50%**
(Sessional Examination, Quizzes, Assignments, In-Class Activities)
- **Final Examination: 50%**

Note: The major share in mid-term evaluation will be of sessional examination. The share of mid-term evaluation and final examination can be 40:60 or 60:40, as approved by statutory bodies of university.



TEXT AND REFERENCE BOOKS

- Zaidi, S. Akbar, (2015). *Issues in Economy of Pakistan*. Karachi: Oxford University Press
- Ahmed, Vaqar, (2017). *Pakistan's Agenda for Economic Reform*. Oxford University Press

ECO-484 Energy Economics

Credit Hours: 3 (3-0)

Contact Hours per Week: 3

Pre-requisites: Principles of Microeconomics & Macroeconomics

Course Description:

This course introduces students to the Economics of Energy systems, focusing on both fossil fuels and renewable energy. It equips students with analytical tools to understand energy markets, pricing, policy-making, and sustainable development, with a contextual emphasis on Pakistan and Chitral's regional energy issues.

Course Objectives:

By the end of this course, students will:

1. Understand global and national energy trends, including Pakistan's energy mix.
2. Apply economic principles to evaluate energy markets and policy decisions.
3. Analyze the dynamics of fossil fuels, electricity, and renewable energy sources.
4. Explore the role of innovation and sustainability in the energy transition.
5. Critically examine policy frameworks and regulatory models for energy governance.

Course Content

1. Introduction to Energy Economics

Importance of energy in development

Global and Pakistan's energy overview

2. Energy and Economic Systems

- Energy and growth

- Biophysical foundations



3. **Fossil Fuels: Oil, Gas, and Coal**
 - Resource discovery, production, reserves
 - Pakistan's resource base
4. **Oil and Gas Markets**
 - Market structures
 - Pricing mechanisms
 - OPEC and price shocks
5. **Coal and Nuclear Energy**
 - Economics and environmental tradeoffs
6. **Electric Power Sector in Pakistan and Globally**
 - Supply, demand, pricing
7. **Power Sector Regulation**
 - State regulatory model
 - NEPRA, DISCOs in Pakistan
8. **Electric Tariff Design**
 - Cost structures, marginal pricing
9. **Energy Sector Reforms and Restructuring**
 - Privatization, liberalization
10. **Renewable Energy Technologies**
 - Solar, wind, geothermal
 - Pakistan's potential
11. **Economics of Renewable Energy**
 - Learning curves, portfolio standards, storage issues
12. **Climate Change and Energy Policy**
 - Carbon pricing, subsidies, SDGs
13. **Energy Transition and Innovation**
 - Green economy, decarbonization trends

Suggested Readings:



- Bhattacharyya, S. C. (2011). *Energy Economics: Concepts, Issues, Markets and Governance*. Springer.
- Zweifel, P., Praktijnjo, A.J., & Erdmann, G. (2017). *Energy Economics: Theory and Applications*. Springer.
- Fouquet, R. (2013). *Handbook on Energy and Climate Change*. Edward Elgar.
- Pakistan Economic Survey (latest energy chapter) – Ministry of Finance.
- NEPRA Reports, OGRA Reports, and Energy Yearbooks – Government of Pakistan.

ECO-485 Health Economics

Prerequisite: Nil

COURSE DESCRIPTION:

This course is an introduction for advanced economics students to contemporary theoretical analysis of, empirical evidence on and policy debate about: What and who produces health, how it is produced, variations in its production, consequences of its production or lack of production.

COURSE OBJECTIVES:

- To develop an understanding on issues related to health economics,
- To give students a basic grounding in the theory and practice of health economics.

COURSE LEARNING OUTCOMES:

By studying this course the students shall be able to:

- UNDERSTAND economic evaluation of health
- IDENTIFY, issues related to health insurance
- MEASURE and EVALUATE health outcomes

Course Outline



1. Introduction

- The particular problems of health and the economics of health:
- Great uncertainty, great irreversibility, major ethical/equity concerns throughout time, the near-impossibility of separating production from distribution.

2. Studies of the production of health.

- What makes individuals and populations healthier or unhealthier?
- Life expectancy mortality, morbidity and X-Adjusted Life.
- The distinction between the production of health and the production of utility.

3. The fundamental microeconomics of health care

- Is health care really different from other commodities? Is this market failure irreparable, and what does it imply for market versus social or state provision of health care? Have we learnt more since Arrow's basic insights?
- The health care market: Supply, demand, industrial organization. Health care as a part of public economics.
- Cost-effectiveness and the role of the economist in the health sector: an introduction. (Students interested in further applications can find them in Cost-Benefit Analysis).
- Measuring Health : Adjusted Life Years: QALYs, DALYS, life years. How far have we come? Can we really measure cost-effectiveness.
- Demographers' measures, particularly life expectancy. What has happened to Russian mortality in the last century, the last two decades, the last few years?
- Problems of Health Care Insurance in theory. Trade-offs in "American" versus "European" systems.

4. The pharmaceutical market.

5. Health in transition.

6. The future of health care reform in the world, and particularly Pakistan.

Recommended Textbooks:

- Bootman JL, Townsend RJ, McGhan WF. (2005). Principles of Pharmacoeconomics. Harvey Whitney Books, Cincinnati.
- Drummond MF, O'Brien BJ, Stoddart GL, Torrance GW (1998). Methods for the Economic Evaluation of Health Care Programmes. 2nd edition, Oxford University Press, Oxford.



- Duckett SJ (2004). The Australian Health Care System. Oxford University Press, Oxford.
- Gold MR, Siegel JE, Russell LB, Weinstein MC (1996). Cost- Effectiveness in Health and Medicine. Oxford University Press, Oxford.
- Petitti DB (2000). Meta-Analysis, Decision Analysis, and Cost- Effectiveness Analysis: Methods for Quantitative Synthesis in Medicine, 2nd edition. Oxford University Press, Oxford.
- Rychlik R (2002). Strategies in Pharmacoeconomics and Outcomes• Research. The Haworth Press, New York.
- Vogenburg, FR (2001). Introduction to applied pharmacoeconomics. McGraw Hill, New York.

ECO-486 Institutional Economics

Prerequisite: Nil

COURSE DESCRIPTION

Today, mainstream economics is investigating which economic factors and human behavior determine economic growth. Alongside these factors, other factors— historical, cultural etc.—also influence choices and behavior—such factors are called institutional factors. This course investigates how “institutions”—broadly construed—determine various social, political and economic outcomes. The course will cover both Original Institutional Economics (OIE) as well as New Institutional Economics (NIE) literature, thereby looking at both formal and informal institutions, causes and possibilities of institutional change as well as on institutional effects on economic growth.

COURSE OBJECTIVES

The course has three basic aims;

1. To familiarize students with basic instruments of microeconomic choice theory
2. To widen perspective of students pertaining to formal and informal constraints that determine behavior.
3. To explain relationship between institutions and economic growth.



COURSE LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to:

- ACQUIRE basic instruments of microeconomic choicetheory.
- UNDERSTAND the formal and informal constraints that determinebehavior.
- SOLVEtheinstitutionalissues throughapplicationofmodernmicroeconomic theory through informedunderstanding.
- EVALUATEandexplainrelationshipbetweeninstitutionalcharacteristicsand economicgrowth.
- DEMONSTRATE critical analysis of formal and informal institutions, causes and possibilities of institutional change and institutional effects to economic growth.

COURSE OUTLINE

1. Introduction to institutionaleconomics.

- Historicaloverviewoftheoriginal(Veblen,Commons,Foster)andnew institutionalists (Coase,North).

2. FormalInstitutions

- Institutionalconstraintsintheeconomy.Legalsystemasaninstitution. Property rights, enforcement of the contracts and laws is also under surveillance. Impact of common and civil law to the behavior of markets and economicdevelopment.



- Political regulation and other forms of market intervention through institutional theory. The key words of this lecture are regulation, control and politics. Central Bank and Fiscal authorities and their impact on economic growth.

3. Informal Institutions

- Introduction to historical and cultural overview of religious development. Religion as an informal constraint. Max Weber idea of Protestant ethics as a source and basis of today's Western world order.
- Introduction of issues related to inequality: social classes and their impact to economic growth, discrimination and the economic consequences. idea of welfare state and issues related to gender and gender segregation.

4. International Institutions:

- How international institutions like EU, WTO and NATO will affect the institutional framework of nation states. What are the economic consequences of membership and non-membership?

5. Institutional Change

- Development of informal institutions and their change is path dependent and incremental. But what about the change of formal institutions? Who are interested bodies of changing formal institutions? Of course, we have "good" examples of revolutions, reforms, wars and transformation, but how they influence the development path of institutions?

6. Rent Seeking and Rent Avoidance.

- Who changes formal institutions? Under democratic system the interest of majority does? Is this really so and how pressure groups emerge? What is the difference of rent seeking and profit seeking? What is the Social Cost of Rent seeking?

8. Coase versus Pigou

- What to do in the cases of market failures? Is "the traditional" state intervention through Pigouvian taxes and subsidies optimal choice for markets? We are introducing Coase criticism of Pigouvian assumptions and Coase theorem.

9. New Political Economy

- We go further from Coase criticism to Pigou and develop critical view over welfare economics. Introducing also rational politicians and the public sector failure, theories provided by Tullock and Buchanan.

TEXT AND REFERENCE BOOKS



- Veblen, T. B.(1904). *The theory of business enterprise*. New York, NY: C. Scribner's Sons.
- Olson, M. (1982). *The Rise and decline of nations*, New Haven, CT: Yale University Press.
- North, D. C. (1991). *Institutions, institutional change and economic performance*. Cambridge/New York: Cambridge University Press.
- Stigler, G. (1997). *Chicago studies in political economy*. Chicago, IL: The University of Chicago Press.
- Krugman, P. (1998). *Pop Internationalism*. Cambridge, MA: MIT Press.
- Acemoglu, D., & Robinson, J. (2012). *Why nations fail: The origins of power, prosperity and poverty*. New York: Crown.
- Tauheed, L. (2013). A critical institutionalist reconciliation of contradictory institutionalist institutions: What is an institution? *Journal of Economic Issues*, 47(1), 1–21.
- Afzal, A. (2017). Revisiting the Glorious Revolution: Property Rights, Economic Institutions and the Developing World. *International Journal for Pluralism and Economics Education*. 8(4), 378–388.