

# **BS Economics Course Outline**

## **BS Economics**

## FRAMEWORK FOR BS (4-YEAR) ECONOMICS

| Compulsory Requirements<br>(the student has no choice) |           | General Courses to be chosen<br>from other departments |           | Discipline Specific Foundation<br>Courses |           |
|--|-----------|--|-----------|---|-----------|
| 9 courses  |           | 7-8 courses  |           | 10-11 courses                             |           |
| 25 Credit hours  |           | 21-24 Cr. Hours  |           | 30-33 Credit hours                        |           |
| Subject  | Cr.<br>hr | Subject  | Cr.<br>hr | Subject                                   | Cr.<br>hr |
| English I  | 3         | 1. Sociology   | 3         | 1. Principles of<br>Microeconomics        | 3         |
| English II   | 3         | 2. Education   | 3         | 2. Principles of<br>Macroeconomics        | 3         |
| English III  | 3         | 3. Psychology  | 3         | 3. Intermediate<br>Microeconomics         | 3         |
| English iv/ Univ.<br>optional *                        | 3         | 4. History   | 3         | 4. Intermediate<br>Macroeconomics         | 3         |
| Pakistan studies                                       | 2         | 5. Geography   | 3         | 5. Statistics I                           | 3         |
| Islamic Studies / Ethics                               | 2         | 6. Philosophy  | 3         | 6. Statistics II                          | 3         |
| Mathematics I  | 3         | 7. Mathematics   | 3         | 7. Development<br>Economics               | 3         |
| Mathematics II / Univ.<br>optional **                  | 3         | 8. Law   | 3         | 8. Research Methods                       | 3         |
| Introduction to<br>Computer                            | 3         | 9. Business<br>Administration.                         | 3         | 9. Mathematical<br>Economics I            | 3         |
|  |           | 10. Commerce   |           | 10. World Economic<br>History             |           |
|  |           | 11. Political Science                                  |           |   |           |
|  |           | 12. International Relations                            |           |   |           |
|  |           | 13. Mass Communication                                 |           |   |           |
|  |           | 14. Foreign Language                                   |           |   |           |
| <b>Courses: 9</b>                                      | <b>25</b> | <b>Courses: 8</b>                                      | <b>24</b> | <b>Courses: 10</b>                        | <b>30</b> |

| Major courses***              |           | Elective Courses within the major            |           |
|-------------------------------|-----------|--|-----------|
| 11-13 courses                 |           | 5 courses                                    |           |
| 36-42 Credit hours            |           | 15 Credit Hours                              |           |
| Subject                       | Cr.<br>hr | Subject                                      | Cr.<br>hr |
| 1. Microeconomics             | 3         | 1. Elective-I                                | 3         |
| 2. Macroeconomics             | 3         | 2. Elective-II                               | 3         |
| 3. Econometrics I             | 3         | 3. Elective-III                              | 3         |
| 4. Econometrics II            | 3         | 4. Elective-IV                               | 3         |
| 5. International Trade Theory | 3         | 5. Elective-V                                | 3         |
| 6. Public Sector Economics    | 3         |  |           |
| 7. Economic Growth            | 3         |  |           |
| 8. Mathematical Economics II  | 3         |  |           |
| 9. Issues in Pak Economy      | 3         |  |           |
| 10. Islamic Economics         | 3         |  |           |
| 11. Entrepreneurial Economics | 3         |  |           |
| 12. Monetary Economics        | 3         |  |           |
|                               |           | <b>(List of Elective subjects is given )</b> |           |
| <b>Courses: 12</b>            | <b>36</b> | <b>Courses: 5</b>                            | <b>15</b> |

\* University has the option to offer any other course in lieu of English IV.

\*\* University has the option to offer any other course in lieu of Mathematics II.

\*\*\* University has the option to offer Research paper/Project in lieu of any (one) course.

## SCHEME OF STUDIES FOR BS (4-YEAR) ECONOMICS

| Semester/Year | Name of Subject               | Credits   |
|---------------|-------------------------------|-----------|
| <b>First</b>  |                               |           |
| ENG-1107      | English I                     | 3         |
| ECO-1002      | Principles of Micro Economics | 3         |
| ISL-1112      | Islamic Studies               | 2         |
| MAT-1115      | Mathematics I                 | 3         |
| COM-1105      | Introduction to Computer      | 3         |
|               | Optional (Non-Economic)       | 3         |
|               |                               | <b>17</b> |
| <b>Second</b> |                               |           |
| ENG-1207      | English II                    | 3         |
| PS-1217       | Pakistan Studies              | 2         |
| ECO-1009      | Principles of Macro Economics | 3         |
| MAT-1215      | Mathematics II                | 3         |
|               | Optional (Non-Economics)      | 3         |
|               | Optional (Non-Economics)      | 3         |
|               |                               | <b>17</b> |
| <b>Third</b>  |                               |           |
| ENG-2107      | English III                   | 3         |
| ECO-2002      | Intermediate Microeconomics   | 3         |
| ECO-2003      | Development Economics         | 3         |
| ECO-2004      | Statistics I                  | 3         |
|               | Optional (Non-Economics)      | 3         |
|               | Optional (Non-Economics)      | 3         |
|               |                               | <b>18</b> |
| <b>Fourth</b> |                               |           |
| ENG-2207      | English IV                    | 3         |
| ECO-2008      | Intermediate Macroeconomics   | 3         |
| ECO-2009      | Statistics II                 | 3         |
| ECO-2100      | World Economic History        | 3         |
|               | Optional (Non-Economics)      | 3         |
|               | Optional (Non-Economics)      | 3         |
|               |                               | <b>18</b> |
| <b>Fifth</b>  |                               |           |
| ECO-3001      | Microeconomics                | 3         |
| ECO-3002      | Macroeconomics                | 3         |
| ECO-3003      | Mathematical Economics I      | 3         |
| ECO-3004      | Issues in Pak Economy         | 3         |
|               | Optional (Non-Economics)      | 3         |
|               |                               | <b>15</b> |
|               |                               |           |

|                |                            |           |
|----------------|----------------------------|-----------|
| <b>Sixth</b>   |                            |           |
| ECO-3007       | Economic Growth            | 3         |
| ECO-3008       | Econometrics I             | 3         |
| ECO-3009       | Mathematical Economics II  | 3         |
| ECO-3100       | Elective I                 | 3         |
| ECO-3101       | Elective II                | 3         |
|                |                            | <b>15</b> |
| <b>Seventh</b> |                            |           |
| ECO-4001       | International Trade Theory | 3         |
| ECO-4002       | Research Methods           | 3         |
| ECO-4003       | Public sector Economics    | 3         |
| ECO-4004       | Econometrics II            | 3         |
| ECO-4005       | Elective III               | 3         |
|                |                            | <b>15</b> |
| <b>Eight</b>   |                            |           |
| ECO-4006       | Entrepreneurial Economics  | 3         |
| ECO-4007       | Islamic Economics          | 3         |
| ECO-4008       | Monetary Economics         | 3         |
| ECO-4009       | Elective IV                | 3         |
| ECO-4100       | Elective V                 | 3         |
|                |                            | <b>15</b> |

**Total Credit Hours = 130**

## List of Elective Courses BS Economics (4-YEAR) Program

| Course Code    | List of Elective Courses                  |
|----------------|---|
| <b>Group A</b> |   |
| ECO-3604       | Labor Economics                           |
| ECO-3605       | Population Economics                      |
| ECO-3606       | Comparative Economic System               |
| ECO-3607       | Environmental Economics                   |
| ECO-3608       | Rural Development                         |
| ECO-3609       | Ethics in Economics                       |
| ECO-3610       | Industrial Economics                      |
| ECO-3611       | Urban Economics                           |
| ECO-3612       | Managerial Economics                      |
| ECO-3613       | Economics of Education                    |
| ECO-3614       | Transport Economics                       |
| ECO-3615       | WTO                                       |
| ECO-3616       | Natural Resource Management               |
|                |   |
| <b>Group B</b> |   |
| ECO-4705       | International Finance                     |
| ECO-4706       | Institutional Economics                   |
| ECO-4707       | Financial Markets                         |
| ECO-4708       | Regional Economics                        |
| ECO-4709       | Political Economy                         |
| ECO-4710       | Dynamic Macro Economics                   |
| ECO-4711       | Money Banking and Finance                 |
| <b>Group C</b> |   |
| ECO-4804       | Agricultural Economics                    |
| ECO-4805       | Health Economics                          |
| ECO-4806       | Public Policies                           |
| ECO-4807       | Experimental and Behavioral Economics     |
| ECO-4808       | Development Policy                        |
| ECO-4809       | Poverty and Income Distribution           |
| ECO-4810       | Energy Economics                          |
| ECO-4811       | Research project/Internship               |
| ECO-4812       | Institutional Economics                   |
| ECO-4813       | Welfare and Happiness Economics           |
| ECO-4814       | Project Appraisal and Investment Analysis |
| ECO-4815       | Sustainable Development                   |
| ECO-4816       | Research Paper                            |

# DETAIL OF COURSES

## PRINCIPLES OF MICROECONOMICS

### **Objectives:**

The course is designed for the beginners with no formal background or little acquaintance with economics. The objective is to give the students with a clear understanding of the basic concepts, tools of analysis and terminologies used in macroeconomics. The teacher is expected to draw examples from the surrounding world to clarify the concepts.

### **Course Contents:**

#### **Introduction:**

The economy in aggregate, Complexities of the world of business, Scope of macroeconomics, Brief account of classical and the development of macro-economic 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:**

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, 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.

#### **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 Monterey policy, Fiscal Policy.

### **Recommended Texts:**

1. Mankiw, G—Principles of Economics- latest edition.
2. Samulson and Nordrons - Economics –latest edition

### **Additional Texts:**

1. Parkin, Michael - Macroeconomics, latest edition
2. Miller, R.L.— Economics Today – latest edition

## **MICROECONOMICS**

### **Objectives:**

The course seeks to provide an understanding of the core economic models for the analysis of decisions by consumers, markets and firms .It would provide some illustrations of the applications of some models to contemporary issues in economics. It also emphasize upon the welfare concept in economics

### **An introduction to Economic models:**

Optimization techniques, Constructing a model, Optimization and equilibrium,

### **Utility:**

Constructing a Utility Function, Maximization of function of one variable Functions of several variables, Constrained maximization, utility maximization Axioms of rational choice, Utility, Indifference curves and marginal rate of substitution Utility functions for specific preferences, Utility maximization: optimization principle Indirect utility function, Income and substitution effects, Demand relationship among goods Demand functions, Changes in income, Changes in goods price, Individual demand curve Compensated demand curve, Mathematical development response to price changes, Consumer surplus revealed preferences, Substitutes and compliments Substitutability with many goods composite commodities.

### **From Individual to Market Demand:**

The Inverse Demand Function, the Elasticity of a Linear Demand Curve Elasticity and Demand, Elasticity and Revenue, Elasticity and Marginal Revenue.

### **Supply:**

Market supply, Market equilibrium, Effect of tax Taxation with Linear Demand and Supply Passing along a Tax, Consumer and producers' burden of tax, deadweight Loss of a Tax.

### **Production function:**

Marginal productivity, Iso quant maps and the rate of technical substitution Returns to scale, the elasticity of substitution, Cost functions Cost functions

and the shifts in the cost curves, Short run long run distinction, Profit maximization.

### **Firms:**

The nature and behavior of firms, Profit maximization, Marginal revenue, Short run supply by a price taking firm, Profit functions, Profit maximization and input demands.

### **Monopoly:**

Linear Demand Curve and Monopoly, Markup Pricing, The Impact of Taxes on a Monopolist, Inefficiency of Monopoly, Deadweight Loss of Monopoly, Price Discrimination, First Degree Price Discrimination, Second-Degree Price Discrimination, Third-Degree Price Discrimination

### **Oligopoly:**

Choosing a Strategy, Quantity Leadership, The Follower's Problem, The Leader's Problem Price Leadership Comparing Price Leadership and Quantity Leadership, Simultaneous Quantity Setting Cournot Equilibrium, Simultaneous Price Setting, Collusion.

### **Game theory:**

Basic concepts, Nash equilibrium, Existence of Nash equilibrium, The prisoners dilemma, A two period game, Pricing in static games, Entry exit and strategy, Games of incomplete information.

### **The Edgeworth Box:**

Trade, Pareto Efficient Allocations, Market Trade, The Algebra of Equilibrium Walras' Law, Relative Prices, Equilibrium and Efficiency, Pareto Efficiency, Social Welfare Functions Welfare Maximization, Individualistic Social Welfare Functions, Fair Allocations.

### **Textbooks:**

- 1) Intermediate Microeconomics: A Modern Approach, 7<sup>th</sup> Edition by Hal R. Varian.
- 2) Microeconomics by Pindyck and Rubinfeld 8 edit.
- 3) Microeconomic theory Basic Principles And Extensions, 9<sup>th</sup> Edition by Nicholson, W.

# INTERMEDIATE MACROECONOMICS

## Reading Material:

### *Textbook:*

1. Mankiw, N. Gregory (2013). *Macroeconomics*. Eighth Edition, Worth Publishers.
2. *Supplementary Texts*
3. Abel, Andrew, B., Bernanke, Ben S. & Croushore, D. (2010). Seventh Edition. Addison-Wesley.
4. Williamson, Stephen D. (2010). *Macroeconomics*. Fourth Edition, Prentice Hall.

And other readings and handouts, as required.

## Topics and Chapters to be Covered:

### A. INTRODUCTION TO MACROECONOMICS

1. **The Science of Macroeconomics (Mankiw Ch#1, ABC Ch#1, Williamson Ch#1)**
  - 1.1 What Macroeconomists Study
  - 1.2 How Economists Think Theory as Model Building The Use of Multiple Models Prices: Flexible Versus Sticky Microeconomic Thinking and Macroeconomic Models
2. **The Data of Macroeconomics (Mankiw Ch#2, ABC Ch#2, Williamson Ch#2)**
  - 2.1 Measuring the Value of Economic Activity: Gross Domestic Product Income, Expenditure, and the Circular Flow Rules for Computing GDP Real GDP Versus Nominal GDP The GDP Deflator Chain-Weighted Measures of Real GDP The Components of Expenditure Other Measures of Income Seasonal Adjustment
  - 2.2 Measuring the Cost of Living: The Consumer Price Index The Price of a Basket of Goods The CPI Versus the GDP Deflator Does the CPI Overstate Inflation?
  - 2.3 Measuring Joblessness: The Unemployment Rate The Household Survey The Establishment Survey

## 2.4 From Economic Statistics to Economic Models

### **3. National Income: Where it Comes from and Where it Goes? (Mankiw Ch#3, ABC Ch#3, Williamson Ch#4)**

- 3.1 What Determines the Total Production of Goods and Services? The Factors of Production
  - The Production Function
  - The Supply of Goods and Services
- 3.2 How Is National Income Distributed to the Factors of Production?
  - Factor Prices
  - The Decisions Facing a Competitive Firm
  - The Firm's Demand for Factors
  - The Division of National Income
  - The Cobb-Douglas Production Function
- 3.3 What Determines the Demand for Goods and Services?
  - Consumption
  - Investment
  - Government Purchases
- 3-4 What Brings the Supply and Demand for Goods and Services Into Equilibrium?
  - Equilibrium in the Market for Goods and Services: The Supply and Demand for the Economy's Output
  - Equilibrium in the Financial Markets: The Supply and Demand for Loanable Funds
  - Changes in Saving: The Effects of Fiscal Policy
  - Changes in Investment Demand

## **B. MONEY, PRICES, AND UNEMPLOYMENT**

### **4. The Monetary System: What it is and How it Works? (Mankiw Ch#4, ABC Ch#7, Williamson Ch#11, 16)**

- 4.1 What Is Money?
  - The Functions of Money
  - The Types of Money
  - The Development of Fiat Money
  - How the Quantity of Money Is Controlled
  - How the Quantity of Money Is Measured
- 4.2 The Role of Banks in the Monetary System
  - 100-Percent-Reserve Banking
  - Fractional-Reserve Banking
  - Bank Capital, Leverage, and Capital Requirements
- 4.3 How Central Banks Influence the Money Supply
  - A Model of the Money Supply
  - The Instruments of Monetary Policy
  - Problems in Monetary Control

## **5. Inflation: It Causes, Effects, and Social Costs (Mankiw Ch#5, ABC Ch#7,12, Williamson Ch#18)**

### 5.1 The Quantity Theory of Money

Transactions and the Quantity

Equation From Transactions to Income

The Money Demand Function and the Quantity

Equation The Assumption of Constant Velocity

Money, Prices, and Inflation

### 5.2 Seigniorage: The Revenue From Printing Money

### 5-3 Inflation and Interest Rates

Two Interest Rates: Real and

Nominal The Fisher Effect

Two Real Interest Rates: Ex Ante and Ex Post

### 5-4 The Nominal Interest Rate and the Demand for

Money The Cost of Holding Money

Future Money and Current Prices

### 5.5 The Social Costs of Inflation

The Layman's View and the Classical Response  
About Inflation

The Costs of Expected Inflation

The Costs of Unexpected

Inflation One Benefit of Inflation

### 5.6 Hyperinflation

The Costs of Hyperinflation

The Causes of Hyperinflation

The Classical Dichotomy

The Cagan Model: How Current and Future Money Affect the  
Price Level

## **6. Unemployment (Mankiw Ch#7, ABC Ch#3,12, Williamson Ch#17)**

### 6.1 Job Loss, Job Finding, and the Natural Rate of Unemployment

### 6.2 Job Search and Frictional Unemployment

Causes of Frictional Unemployment Public

Policy and Frictional Unemployment

### 6.3 Real-Wage Rigidity and Structural Unemployment

Minimum-Wage Laws

Unions and Collective

Bargaining Efficiency Wages

### 6.4 Labor-Market Experience: The United

States The Duration of Unemployment

Variation in the Unemployment Rate Across Demographic

Groups Transitions Into and Out of the Labor Force

### 6.5 Labor-Market Experience: Europe The

Rise in European Unemployment

Unemployment Variation Within

Europe The Rise of European Leisure

## **C. THE ECONOMY IN THE SHORT RUN: ECONOMIC FLUCTUATIONS**

### **7. Introduction to Economic Fluctuations (Mankiw Ch#10, ABC Ch#8, Williamson Ch#3)**

- 7.1 The Facts About the Business Cycle
  - GDP and Its Components
  - Unemployment and Okun's Law
  - Leading Economic Indicators
- 7.2 Time Horizons in Macroeconomics How the Short Run and Long Run Differ
  - The Model of Aggregate Supply and Aggregate Demand
- 7.3 Aggregate Demand
  - The Quantity Equation as Aggregate Demand
  - Why the Aggregate Demand Curve Slopes Downward
  - Shifts in the Aggregate Demand Curve
- 7.4 Aggregate Supply
  - The Long Run: The Vertical Aggregate Supply Curve
  - The Short Run: The Horizontal Aggregate Supply Curve
  - From the Short Run to the Long Run
- 7.5 Stabilization Policy
  - Shocks to Aggregate Demand
  - Shocks to Aggregate Supply

### **8. Aggregate Demand I: Building the IS-LM Model (Mankiw Ch#11, ABC Ch#9)**

- 8.1 The Goods Market and the IS Curve
  - The Keynesian Cross
  - The Interest Rate, Investment, and the IS Curve How Fiscal Policy Shifts the IS Curve
- 8.2 The Money Market and the LM Curve The Theory of Liquidity Preference Income, Money Demand, and the LM Curve How Monetary Policy Shifts the LM Curve
- 8.3 The Short-Run Equilibrium

### **9. Aggregate Demand II: Applying the IS-LM Model (Mankiw Ch#12, ABC Ch#11)**

- 9.1 Explaining Fluctuations With the IS-LM Model
  - How Fiscal Policy Shifts the IS Curve and Changes the Short-Run Equilibrium
  - How Monetary Policy Shifts the LM Curve and Changes the Short-Run Equilibrium
  - The Interaction Between Monetary and Fiscal Policy
  - Shocks in the IS-LM Model

What Is the Fed's Policy Instrument - The Money Supply or the Interest Rate?

## 9.2 IS–LM as a Theory of Aggregate Demand

From the IS–LM Model to the Aggregate Demand Curve

The IS–LM Model in the Short Run and Long Run

## 9.3 The Great Depression

The Spending Hypothesis: Shocks to the IS Curve

The Money Hypothesis: A Shock to the LM Curve

The Money Hypothesis Again: The Effects of Falling Prices

Could the Depression Happen Again?

## **10. Aggregate Supply and the Short-run Tradeoff Between Inflation and Unemployment (Mankiw Ch#14, ABC Ch#11, Williamson Ch#13)**

### 10.1 The Basic Theory of Aggregate Supply

The Sticky-Price Model

An Alternative Theory: The Imperfect-Information Model

Implications 404

### 10.2 Inflation, Unemployment, and the Phillips Curve

Deriving the Phillips Curve From the Aggregate Supply Curve

Adaptive Expectations and Inflation Inertia

Two Causes of Rising and Falling Inflation

The Short-Run Tradeoff Between Inflation and Unemployment

Disinflation and the Sacrifice Ratio

Rational Expectations and the Possibility of Painless Disinflation

Hysteresis and the Challenge to the Natural-Rate Hypothesis

## **11. A Dynamic Model of Aggregate Demand and Aggregate Supply (Mankiw Ch#15)**

### 11.1 Elements of the Model

Output: The Demand for Goods and Services

The Real Interest Rate: The Fisher Equation

Inflation: The Phillips Curve

Expected Inflation: Adaptive Expectations

The Nominal Interest Rate: The Monetary-Policy

### Rule 11.2 Solving the Model

The Long-Run Equilibrium

The Dynamic Aggregate Supply Curve

The Dynamic Aggregate Demand Curve

The Short-Run Equilibrium

### 11.3 Using the Model

Long-Run Growth

A Shock to Aggregate Supply

A Shock to Aggregate Demand

A Shift in Monetary Policy

### 11.4 Two Applications: Lessons for Monetary Policy

The Tradeoff Between Output Variability and Inflation Variability

## **12. Classical Business Cycle Analysis: An Equilibrium Business Cycle Model (ABC Ch#10, Williamson Ch#12)**

- 12.1 Business Cycles in the Classical Model  
The Real Business Cycle  
Theory Calibrating the Business Cycle  
Fiscal Policy Shocks in the Classical Model  
Unemployment in the Classical Model  
Household Production
- 12.2 Money in the Classical Model  
Monetary Policy and the Economy  
Monetary Nonneutrality and Reverse Causation  
The Nonneutrality of Money: Additional Evidence
- 12.3 The Misperceptions Theory and the Nonneutrality of Money  
Monetary Policy and the Misperceptions Theory  
Rational Expectations and the Role of Monetary Policy  
In Touch with Data and Research: Are Price Forecasts Rational?

## **MACROECONOMICS**

### **Reading Material:**

#### ***Textbook:***

1. Mankiw, N. Gregory (2013). Macroeconomics. Eighth or latest Edition, Worth Publishers.
2. Weil, David N. (2012). Economic Growth. Third Edition, Pearson.

#### ***Supplementary Texts:***

1. Abel, Andrew, B., Bernanke, Ben S. & Croushore, D. (2010). Seventh or latest Edition. Addison-Wesley.
2. Williamson, Stephen D. (2010). Macroeconomics. Fourth or latest Edition, Prentice Hall.
3. Romer, David - Advanced Macroeconomics -(latest edition)- McGraw Hills, New York.

And other readings and handouts, as required.

### **Topics and Chapters to be Covered:**

#### **A. THE ECONOMY IN THE VERY LONG RUN**

##### **1. Economic Growth I: Capital Accumulation and Population Growth (Mankiw Ch#8, Weil Ch#3, 4, Williamson Ch#6)**

- 1.1 The Accumulation of Capital  
The Supply and Demand for Goods

- Growth in the Capital Stock and the Steady State
- Approaching the Steady State: A Numerical Example
- How Saving Affects Growth
- 1.2 The Golden Rule Level of Capital
  - Comparing Steady States
  - Finding the Golden Rule Steady State: A Numerical Example
  - The Transition to the Golden Rule Steady State
- 1.3 Population Growth
  - The Steady State With Population Growth
  - The Effects of Population Growth
  - Alternative Perspectives on Population Growth
- 2. Economic Growth II: Technology, Empirics, Policy, and Human Capital (Mankiw Ch#9, Weil Ch#7, 8, 9, 6, Williamson Ch#7)**
  - 2.1 Technological Progress in the Solow Model
    - The Efficiency of Labor
    - The Steady State With Technological Progress
    - The Effects of Technological Progress
  - 2.2 From Growth Theory to Growth Empirics
    - Balanced Growth
    - Convergence
    - Factor Accumulation Versus Production Efficiency
  - 2.3 Policies to Promote Growth
    - Evaluating the Rate of Saving
    - Changing the Rate of Saving
    - Allocating the Economy's Investment
    - Establishing the Right Institutions
    - Encouraging Technological Progress
  - 2.4 Beyond the Solow Model: Endogenous Growth Theory
    - The Basic Model
    - A Two-Sector Model
    - The Microeconomics of Research and Development
    - The Process of Creative Destruction
- 3. Economic Growth III: Beyond the Correlates of Economic Growth (Weil Ch#14 & 15)**
  - 3A.1 The Effect of Culture on Economic Growth
    - Openness to New Ideas
    - Hard Work
    - Saving for the Future
    - Trust
    - Social Capital
    - Social Capability
  - 3A.2 What Determines Culture? Climate and Natural Resources
    - Cultural Homogeneity and Social Capital

- Population Density and Social Capability
- 3A.3 Cultural Change
  - Economic Growth and Cultural Change
  - Government Policy and Cultural Change
- 3B.1 Geography
  - Location, Trade and Growth
  - Geographic Concentration and Spillovers
  - Geography's Effect on Government
- 3B.2 Climate
  - Climate and Agricultural Productivity
  - Climate and Disease
  - Climate and Human Effort
- 3B.3 Natural Resources
  - The Relationship between Natural Resources and Growth
  - Explanations for the Resource Curse

## **B. TOWARDS MICROECONOMIC FOUNDATIONS OF THE MACRO ECONOMY**

- 4. Understanding Consumer Behaviour (Mankiw Ch#16, ABC Ch#4, Williamson Ch#8)**
  - 4.1 John Maynard Keynes and the Consumption Function
    - Keynes's Conjectures
    - The Early Empirical Successes
    - Secular Stagnation, Simon Kuznets, and the Consumption Puzzle
  - 4.2 Irving Fisher and Intertemporal Choice
    - The Intertemporal Budget Constraint
    - Consumer Preferences
    - Optimization
    - How Changes in Income Affect Consumption
    - How Changes in the Real Interest Rate Affect Consumption
    - Constraints on Borrowing
  - 4.3 Franco Modigliani and the Life-Cycle Hypothesis
    - The Hypothesis
    - Implications
  - 4.4 Milton Friedman and the Permanent-Income Hypothesis
    - The Hypothesis
    - Implications
  - 4.5 Robert Hall and the Random-Walk Hypothesis
    - The Hypothesis
    - Implications
  - 4.6 David Laibson and the Pull of Instant Gratification
- 5. The Theory of Investment (Mankiw Ch#17, ABC Ch#5, Williamson Ch#10)**
  - 5.1 Business Fixed Investment

- The Rental Price of Capital
- The Cost of Capital
- The Determinants of Investment
- Taxes and Investment
- The Stock Market and Tobin's  $q$
- Alternative Views of the Stock Market: The Efficient Markets Hypothesis Versus Keynes's Beauty Contest
- Financing Constraints
- 5.2 Residential Investment
  - The Stock Equilibrium and the Flow Supply
  - Changes in Housing Demand
- 5.3 Inventory Investment
  - Reasons for Holding Inventories
  - How the Real Interest Rate and Credit Conditions Affect Inventory Investment

## **C. INTERNATIONAL MACROECONOMICS: THE OPEN ECONOMY**

### **6. The Open Economy (Mankiw Ch#6, ABC Ch#13, Williamson Ch#14)**

- 6.1 The International Flows of Capital and Goods
  - The Role of Net Exports
  - International Capital Flows and the Trade Balance
  - International Flows of Goods and Capital: An Example
- 6.2 Saving and Investment in a Small Open Economy
  - Capital Mobility and the World Interest Rate Why Assume a Small Open Economy?
  - The Model
  - How Policies Influence the Trade Balance
  - Evaluating Economic Policy
- 6.3 Exchange Rates
  - Nominal and Real Exchange Rates
  - The Real Exchange Rate and the Trade Balance
  - The Determinants of the Real Exchange Rate
  - How Policies Influence the Real Exchange Rate
  - The Effects of Trade Policies
  - The Determinants of the Nominal Exchange Rate
  - The Special Case of Purchasing-Power Parity

### **7. Open Economy Revisited: The Mundell-Fleming Model and the Exchange Rate Regime (Mankiw Ch#13, ABC Ch#13, Williamson Ch#15)**

- 7.1 The Mundell–Fleming Model
  - The Key Assumption: Small Open Economy With Perfect Capital Mobility
  - The Goods Market and the IS\* Curve

- The Money Market and the LM\* Curve
  - Putting the Pieces Together
- 7.2 The Small Open Economy Under Floating Exchange Rates
  - Fiscal Policy
  - Monetary Policy
  - Trade Policy
- 7.3 The Small Open Economy Under Fixed Exchange Rates
  - How a Fixed-Exchange-Rate System Works
  - Fiscal Policy
  - Monetary Policy
  - Trade Policy
  - Policy in the Mundell–Fleming Model: A Summary
- 7.4 Interest Rate Differentials
  - Country Risk and Exchange-Rate Expectations
  - Differentials in the Mundell–Fleming Model
- 7.5 Should Exchange Rates Be Floating or Fixed?
  - Pros and Cons of Different Exchange-Rate Systems
  - Speculative Attacks, Currency Boards, and Dollarization
  - The Impossible Trinity
- 7.6 From the Short Run to the Long Run: The Mundell–Fleming Model With a Changing Price Level

## **D. MACROECONOMIC POLICY**

### **8 Alternative Perspectives on Stabilization Policy (Mankiw Ch#18, ABC Ch#12)**

- 8.1 Should Policy Be Active or Passive?
  - Lags in the Implementation and Effects of Policies
  - The Difficult Job of Economic Forecasting
  - Ignorance, Expectations, and the Lucas Critique
  - The Historical Record
- 8.2 Should Policy Be Conducted by Rule or by Discretion?
  - Distrust of Policymakers and the Political Process
  - The Time Inconsistency of Discretionary Policy Rules for Monetary Policy
- 8.3 Making Policy in an Uncertain World

### **9 Government Debt and Budget Deficits (Mankiw Ch#19, ABC Ch#15)**

- 9.1 The Size of the Government Debt
- 9.2 Problems in Measurement Measurement
  - Problem 1: Inflation Measurement
  - Problem 2: Capital Assets Measurement
  - Problem 3: Uncounted Liabilities
  - Measurement Problem 4: The Business Cycle
  - Summing Up

#### 9-3 The Traditional View of Government Debt

- 9.4 The Ricardian View of Government Debt
  - The Basic Logic of Ricardian Equivalence
  - Consumers and Future Taxes
  - Making a Choice
- 9.5 Other Perspectives on Government Debt
  - Balanced Budgets Versus Optimal Fiscal Policy
  - Fiscal Effects on Monetary Policy

## **10 The Financial System: Opportunities and Dangers (Mankiw Ch#20, Williamson Ch#9)**

- 10.1 What Does the Financial System Do?
  - Financing Investment
  - Sharing Risk
  - Dealing With Asymmetric Information
  - Fostering Economic Growth
- 10.2 Financial Crises
  - The Anatomy of a Crisis
  - Policy Responses to a Crisis
  - Policies to Prevent Crises

## **STATISTICS I**

### **Objective:**

This is a first course in development economics that studies the economics of low and middle income countries. Topics include the structure of developing countries, their institutions, the policies their governments follow, the contours of poverty and inequality, and the ongoing struggles with economic growth. Apart from that it would cover theoretical foundations for different policy issues such as--What is the role of markets? Is government intervention in a market is a good thing? Do we need to be concerned about inequality? and why? What are institutions, and how do they facilitate or hinder economic development? Is development necessarily uneven, with some sectors growing and others stagnating? How do we think about the political economy of development: from voting or lobbying all the way to conflict? What are local problems and policies and what are international problems and policies?

### **Contents:**

#### **An overview of Development:**

Historical experiences of developing countries, broad conceptual explanation of underdevelopment, comparative economic development, emerging major

issues of developing world, basic theories of growth and development, and contemporary models of underdevelopment/development.

### **Domestic problems and Policies:**

The nexus of poverty, inequality and underdevelopment, the distribution of wealth and resources, poverty and nutrition, demographic transition, population growth; its causes and consequences, urbanization/rural-urban migrations; its causes and consequences, human capital; education, health and development, agriculture and rural development, wars and conflicts, environment and natural resources, sustainable development.

### **International problems and Policies:**

Trade/access to factor and product markets and development, balance of payment problems, debt, stabilization policies, international shocks, foreign finance, foreign aid, international wars and conflicts, migration and remittances.

### **Markets and Development:**

The role of markets in development, credit, financing, SME's, industrial and trade policies, land, labor and agriculture, livestock, market failure and government intervention, stabilization policies.

### **Institutions and Development:**

What are institutions, how do they facilitate or hinder economic development? The political economy, democracy vs dictatorship, decentralization, good governance, corruption, rent seeking, ethnic conflict, gender inequality, voting and lobbying, the role of civil society.

### **Recommended Books:**

1. Todaro, M.P. and S.C. Smith. *Economic Development*, 11<sup>th</sup> edition (2011). Palgrave.
2. Debraj Ray. *Development Economics*, (1998), Princeton University Press.

### **Additional Readings:**

1. Sokoloff, K. and S. Engerman (2000), "History Lessons: Institutions, Factor Endowments, and Paths of Development in the New World," *Journal of Economic Perspectives*.
2. Acemoglu, D., Johnson, S. and J. Robinson (2001), "The Colonial Origins of Comparative Development: An Empirical Investigation," *American Economic Review*.
3. S. Anderson and D. Ray (2010), "Missing Women: Age and Disease," *Review of Economic Studies*.
4. K. Munshi and J. Myaux (2006), "Social Norms and the Fertility Transition," *Journal of Development Economics*.
5. J. Esteban, L. Mayoral and D. Ray (2012), "Ethnicity and Conflict: Theory and Facts," *Science*.

6. Acemoglu, Daron and James A. Robinson (2006), *Economic Origins of Dictatorship and Democracy*, Cambridge University Press;
7. Basu, K. *Analytical Development Economics: The Less Developed Economy Revisited*. (Cambridge: MIT Press)
8. Thirlwall, A.P. *Growth, and Development with Special Reference to Developing Economies*. (Basingstoke: Palgrave Macmillan)

## **RESEARCH METHODS**

### **Course Description:**

This course is designed to provide students, enrolled in the undergraduate program of Economics, with the skills required to understand different scientific research tools, using for academic as well as professional investigation of the information. Topics, which will be covered, are scientific method, research design; measurement; sampling; quantitative, qualitative, and mixed data collection techniques; data analysis and interpretation; and research proposal development. With the help of existing literature, students will be enabled to find gaps and to identify core problems in different economic situations. They will learn how to define a research question, explore the strengths of various methods, and experience different data collection methods. Students will be helped for drafting a preliminary research proposal. Students will also learn about some ethics, which are essential for the research.

### **Course Contents:**

#### **Introduction to Research:**

Why study research methods? Aims and Assumptions of this course, Central Issues of Research, Descriptive vs Explanation, Different ways to answer the situations.

#### **Research Ethics:**

Plagiarism, Data Collection and Analysis, Treatment of Human Subjects, Making Ethical Decisions, The Uses of Research: Science and Society

#### **Problem Identification:**

Analysis of the area of interest, The relationship between theory and method, What makes a problem/ topic interesting? What is researchable? Feasibility...The 'so what?!' factor The value of simplicity,

#### **Research Questions:**

General and Specific Research Questions, Developing Research Questions in Different Situations, Role of Research Questions, Hypothesis

**Elements of Research Design:**

Units of Analysis, Variables, Relationships, Statistically Significant Relationship, Research Purpose and Research Design, Qualitative Research Design, Quantitative Research Design

**Proposal Writing:**

How to draft a quality Proposal

**Research Method:**

Overview of research methods, Quantitative (multivariate) methods, Qualitative (interpretive) methods, Using available data, Multi-method and applied research methods

**Data Collection:**

Experiments, Survey Design, Field Study, Secondary Data Collection

**Sampling:**

Population Definition, Sampling Designs, Probability Sampling, Non Probability Sampling, Factors Affecting Choice of Sample Design, Sample Size and Factors Affecting Sample Size. Sampling Error

**Data Analysis:**

Data Processing, Preliminary Descriptive Analysis, Quantitative Data Analysis, Qualitative Data Analysis, Interpretation of Results

**Report Writing:**

Abstract, Introduction, Literature Review, Methods and Data Collection, Findings and Interpretation, Conclusion and Suggestions. References.

**Recommended Books:**

1. Singleton & Straits, "*Approaches to Social Research*" *latest Edition*, Oxford University Press
2. Keith F, Punch, "Introduction to Social Research: Quantitative and Qualitative Approaches" *latest Edition*, Sage Publication

# MATHEMATICAL ECONOMICS I

## Course Description:

This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

## Course Outline:

### 1. Preliminaries:

Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems.

### 2. Functions of one real variable:

Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications; continuous functions: characterizations, properties with respect to various operations and applications; differentiable functions: characterizations, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.

### 3. Single-variable optimization:

Geometric properties of functions: convex functions, their characterizations and applications; local and global optima: geometric characterizations, characterizations using calculus and applications.

### 4. Integration of functions:

Areas under curves; indefinite integrals; the definite integral.

### 5. Difference equations:

First order difference equations.

## Readings:

1. K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia, Delhi, 2002.
2. A.C. Chiang, *Fundamental Methods of Mathematical Economics*. N.Y, McGraw Hill Co, Latest edition.

# **WORLD ECONOMIC HISTORY:**

World Economic History: Origins of Development and Underdevelopment

**Prerequisites:** None

## **Description:**

This course surveys the history of colonial expansion from the discovery of the Americas up to the colonization of the Middle East following the end of the First World War.

The course is intended to give students a chronological account of the rise of imperialism and the colonial expansion into Latin America, Asia and Africa. While emphasis is placed on social, political and economic developments within the European nations which prompted colonial expansion, the primary focus is on how the actual colonies were acquired and the subsequent changes that took place.

The course attempts to provide an essential background to understanding the historical processes by which modern developed nations became developed, and how the underdeveloped "Third World" originated as part of the same historical process.

## **Text Book:**

The main textbook for this course is:

1. L.S. Stavrianos' *Global Rift: The Third World Comes of Age*, (New York: William Morrow and Company, 1981).

## **Additional readings are:**

Kuhn, Frithjof. "Causes of underdevelopment and concepts for development. An introduction to development theories." *The Journal of Institute of Development Studies, NWFP Agriculture* 8 (1987).

Arrighi, Giovanni. "Globalization and the Rise of East Asia Lessons from the Past, Prospects for the Future." *International Sociology* 13.1 (1998): 59-77.

Findlay, Ronald, and Kevin H. O'Rourke. *Power and plenty: trade, war, and the world economy in the second millennium*. Princeton, NJ: Princeton University Press, 2007.

Stiglitz, Joseph E. *Globalization and its Discontents*. Vol. 500. New York: WW Norton, 2002.

Stiglitz, Joseph E. "Globalization, technology, and Asian development." Asian Development Review 20.2 (2003): 1-18.

**Module One:**

The Discovery of the Americas to the Rise of Industrial Capital, 1492 – 1770

1. Introduction: Dependency Theories.  
Readings: Kuhn – Causes of underdevelopment
2. The Discovery of America.  
Readings: Stavrianos, pp. 74-99
3. The Origins of the Slave Trade.  
Readings: Stavrianos, pp. 99-122
4. Overland Trade Routes and the Middle East. Readings: Stavrianos, pp. 122-141
5. Origins of Colonial Expansion in Asia.  
Readings: Stavrianos, pp. 141-169

**Module Two:** Industrial Capitalism to Monopoly Capitalism, 1771 – 1870

6. The First Industrial Revolution.  
Readings: Stavrianos, pp. 169-177
7. The Latin American Revolutions.  
Readings: Stavrianos, pp. 177-196
8. The End of the Slave Trade  
Readings: Stavrianos, pp. 196-205
9. Expansions into the Middle East  
Readings: Stavrianos, pp. 205-230
10. The Conquest of India  
Readings: Stavrianos, pp. 230-250

**Module Three: Monopoly Capitalism to The First World War, 1870 – 1917**

11. The Second Industrial Revolution.  
Readings: Stavrianos, pp. 256-278
12. The Scramble for Africa Readings:  
Stavrianos, pp. 278-309
13. The Opium Wars and the Onslaught on East Asia. Readings: Stavrianos, pp. 309-333
14. Russian Political and Economic Developments  
Readings: Stavrianos, pp. 333-349
15. The Japanese Response.  
Readings: Stavrianos, pp. 349-367

**Module Four: Nationalist Thought and Indigenous Responses to the West**

16. Origins of Nationalist Thought I.  
Readings: Stavrianos, pp. 367-390
17. Origins of Nationalist Thought II.  
Readings: Stavrianos, pp. 390-433
18. The Russian Revolution. Readings:  
Stavrianos, pp. 484-513
19. Rise of East Asia:  
Readings: Arrighi p 59=77
- 20: (Re)-Globalization:  
Readings: p496-540 from Findlay & O'Rourke  
also: Stiglitz (p1-18)

# **MICROECONOMICS**

## **ECONOMETRICS I**

### **Objectives:**

This is a foundation course for enabling the students of Economics to analytically formulate and statistically estimate the economic problems for verifying the empirical validity of theoretical models. The course contents range from data transformation to the analyses of both latitudinal and longitudinal data.

The analytical skill is supported by the usage of different Econometrics Softwares.

**Lab work:** The students are required to devote at least two hour per week to computer laboratory. They have to attend classes to learn various Econometrics softwares for practical application of Econometric models they have learnt so far.

### **Course Contents:**

#### **Introduction:**

Definition and scope of Econometrics, Economic theory as the basis for empirical analysis, Mathematical and Econometric models, Application of Statistical techniques to Economic data, Ingredients of Econometric modeling: Specification, Estimation, Evaluation and Forecasting. Data Types and Sources, Cross-sectional data, time-series data and pool data, Data at current and constant prices, Sources of data

#### **The Classical Linear Regression Model (CLRM)**

##### **(a) The Simple Two-Variable Model**

Simple Regression function, population and regression function, linear regression function: linearity in variables and linearity in parameters, Simple Regression Analysis: Estimation, Method of Ordinary Least Squares (OLS), Estimation of regression equation using OLS, Standard error of estimates, Numerical properties of OLS estimators, Statistical properties of OLS estimators (BLUE), Classical Linear Regression Model (CLRM), Assumptions of CLRM, Estimation of the coefficient of determination, Interval estimation of regression coefficients, Classical Normal Linear Regression Model (CNLRM), Difference between CLRM and CNLRM, Properties of OLS estimates under CNLRM, Simple Linear Regression Analysis: Inference, Confidence interval approach for regression coefficients, Test of significance approach for regression coefficients, Analysis of variance (ANOVA), Test of the overall significance of the model, Simple Linear Regression Analysis: Extensions, Regression

through the origin, Scaling and measurement of variables, Regression on standardized variables Functional Forms of Regression Function, Log linear models, Cobb Douglas production function Log-Lin models, The constant growth model, Estimating the growth rate, Lin-Log models, Engel curve, Reciprocal models

**(b) The Multiple Linear Regression Model (MLRM)**

Multiple Regression Analysis, Difference between simple and multiple regression analysis, Interpretation of multiple regression function, Multiple Regression Analysis: Estimation, OLS estimation of multiple regression equation, Standard error of partial regression coefficients, Properties of OLS estimators, Coefficient of determination ( $R^2$ ),  $R^2$  and Adjusted  $R^2$ , Multiple Regression Analysis: Inference, Test of individual significance (t-test), Test of overall significance (F-test) Multiple Regression Function: Extensions, Testing the equality of parameters, Testing linear equality restriction, Testing for structural stability of regression models: The Chow test

**Deviation from the Classical Assumptions:**

Assumptions of the classical model and economic reality, Relaxation of the assumptions and estimation issues, Brief introduction to the nature of problems and alternatives.

**(i) Multicollinearity:**

Linear relationship between any two explanatory variables, Nature and severity of the problem, OLS estimation of regression equation in the presence of perfect multicollinearity, Causes of multicollinearity, Distinction between perfect and partial Multicollinearity, Detection of the problem and remedial measures.

**(ii) Heteroskedasticity:**

Meaning of Heteroskedasticity, The nature of the problem with reference to economic theory, Cross-section data and the problem of non-constant variances, Consequences for OLS estimators, Detection of the problem and remedial measures in brief, Introduction to the Generalized Least-Squares model (GLS).

**(iii) Autocorrelation:**

Autocorrelation and its causes, Time-series data and emergence of the problem with reference to economic theory, Serial Correlation, The AR(1) process, Consequences of Autocorrelation for OLS estimators, Detection of the problem and remedial measures

**Recommended Books:**

1. Gujarati, D. J. - Basic Econometrics – 4<sup>th</sup> Edition (2003) McGraw-Hill Company.

2. Maddala, G.S. – Econometrics - (1988) – McGraw-Hill Company.
3. Koutsoyiannis, A.- Theory of Econometrics - 2<sup>nd</sup> Edition (1977) - McMillan.

### **Additional Readings:**

1. Dougherty, Christopher – Introduction to Econometrics – 2<sup>nd</sup> edition (2002)
2. Oxford University Press.
3. Wonnacot & Wonnacot –Econometrics – 2<sup>nd</sup> Edition (1970)-John Wiley, New York.
4. Pindyck & Rubinfeld- Econometric Models & Economic Forecasts- 3<sup>rd</sup> Edition (1992)- McGraw Hill Inc.
5. Stock H. J. and M. W. Watson (2003), *Introduction to Econometrics*, India: Pearson Education.
6. Stewart G. K. (2005), *Introduction to Applied Econometrics*, United States of America: Curt Hinrichs.

## **ECONOMETRICS II**

### **Objectives:**

This course follows up the data analysis and data estimation techniques included in Econometrics I. The major objective of this course is to enable the student for competing in a job market where positive analysis is increasingly becoming subject to highly intensive and extensive analytical formulations, largely owing to the unprecedented and remarkable development in information technology. The main contents of the course include panel data estimation techniques, identification problem and dummy on dependent variable, the Logit/Probit model. Hence, this course is designed for senior undergraduates more inclined towards quantitative studies. The objective is to enable the students dive deep into complex problems of the real world economic life. The students have to learn certain computer packages like SPSS, E-views and STATA besides Excel.

**Lab work:** The students are required to devote at least two hour per week to computer laboratory. They have to attend classes to learn various Econometrics softwares for practical application of Econometric models they have learnt so far.

### **Course Contents:**

#### **Matrix Approach of the Classical Linear Regression Model:**

The multiple regression (K-variable) model in matrix format, Assumptions of the model, The Least-Squares estimation procedure in matrix notation, Properties of the OLS estimators, Interpretation of the Beta coefficients ( $\beta_1, \beta_2, \dots, \beta_k$ ), Hypothesis testing using matrix approach, Forecasting in OLS

model, OLS estimation: variance-covariance matrix of estimators, Coefficient of determination,  $R^2$ , in matrix notations, Correlation matrix

### **Dummy Variable Regression Models:**

Nature of dummy variables, ANOVA models with qualitative variables, Regression with dummy dependent and independent variables, Technical aspects of the dummy variable.

### **Econometric Modeling: Model Specification:**

Model selection criteria, Types of specification errors, Consequences of model, specification errors, Tests of specification errors, Errors of measurement, Model selection criteria, Endogeneity: where X is not fixed in repeated sampling, Nature of Endogeneity, OLS estimation in presence of Endogeneity, Detection of Endogeneity, BLUE estimator in the presence of Endogeneity, Consequences of Endogeneity in OLS estimation, Remedial measures.

### **Pool the Cross-sectional and Time-series Data:**

Why panel data regression models, Estimation of pool data regression models, Common intercept method, Fixed effects model, Least Square Dummy Variables Approach, Random effects model, Generalized Least Square Approach, Fixed effects model vs. random effects model, Hausman Specification Test.

### **Simultaneous Equation Models & Estimation Methods:**

Simultaneous equation models, Nature of simultaneous equations, Examples of simultaneous equation models from economic theory, Inconsistency of OLS estimators, Identification problem, Notations and definitions, Unidentified, exactly identified and over identified, Rules for identification, Simultaneous equation approaches to estimation, Method of indirect least squares (ILS), Method of two stage least squares (2SLS), Instrumental Variable approach to 2SLS, Seemingly unrelated equations (SUR), Nature of SUR equations, Method of GLS, Equations having characteristics of simultaneity and SUR, Three stage least squares technique (3SLS), Full information maximum likelihood estimation (FIML)

### **Time Series Econometrics:**

Concept of Stationarity, Tests of Stationarity, Unit Root test, Transforming Non-stationary Time Series, ARMA and ARIMA Models, Comparison of forecast based on ARIMA and regression models, Cointegration and Error Correction Mechanism (ECM), ARCH models

### **Recommended Books:**

1. Stock H. J. and M. W. Watson (2003), *Introduction to Econometrics*, India: Pearson Education. Latest edition

2. Gujarati, D.J. - *Basic Econometrics* (2003)- McGraw Hill Company. Latest edition
3. Jeffrey M. Wooldridge J. M., (2001) “*Econometric Analysis of Cross Section and Panel Data*”, The MIT Press, Latest edition
4. Dimitrios A. (latest edition), “*Applied Econometrics: A Modern Approach using Eviews and Microfit*”, Palgrave, Macmillan

### **Additional Readings:**

1. Johnston, J & John Dinardo- *Econometric Methods* – (1997) The McGraw Hill Companies, Inc, Singapore. Latest edition
2. Greene W. H (latest edition), *Econometrics Analysis*, Pearson Education, Inc
3. Intrilligator, M - *Econometric Models: Techniques and Applications*- N. J. Prentice Hall, (Latest edition).
4. Judge, George G. et al - *The Theory and Practice of Econometrics*-(1988), John Willey and Sons.
5. Maddala, G.S. & Kim –*Unit Roots, Co-integration and Structural Change* - (1998)

## **INTERNATIONAL TRADE THEORY**

**Prerequisite:** Microeconomics

### **Objectives:**

The main objective of the course is to offer a detailed introduction to the economics of international trade. In the first, we will develop an analytical framework for studying international trade. The question that we answer is, ‘Why do nations trade?’ Secondly, we use the analytical framework to examine policies that government adopts toward international trade.

### **Course Contents:**

#### **Introduction:**

The gains from trade, The pattern of trade, Protectionism, The balance of payments, Exchange rate determination, International policy coordination, The international capital market.

#### **The Ricardian Model:**

The concept of comparative advantage, Trade in one factor world, Misconception about comparative advantage, Comparative advantage with many goods, Empirical evidence on the Ricardian model.

#### **The Specific Factors Model:**

Assumptions of the model, International trade in the specific factors model, Income distribution and the gains from trade.

**The Heckscher Ohlin Model:**

A model of a two factor economy, Effects of international trade, Empirical evidence.

**The Standard Trade Model:**

A standard model of a trading economy, Economic growth, International transfers of income, Tariff and export subsidies

**Economics of Scale and Imperfect Competition:**

Economies of scale and international trade, Economy of scale and market structure, the theory of imperfect competition, Monopolistic competition and trade, Dumping, The theory of external economies, External economy and international trade

**International Factor Mobility:**

International labor mobility, International borrowing and lending, Direct foreign investment and multinational firms.

**Instruments of Trade Policy:**

Tariff, export subsidies, import quota, voluntary export restraints, the effects of trade policy

**Trade Policies in Developing Countries:**

Import substituting industrialization, Problem of the dual economy, Export oriented industrialization

**Recommended Books:**

1. Paul R. Krugman and Maurice Obstfeld, International Economics: Theory and Policy, Addison Wesley, Latest edition.
2. Donomick Sal Vatore B., International Economics: Prentice Hal, Latest edition.

**PUBLIC SECTOR ECONOMICS****Objectives:**

The course aims to develop an understanding of the impact of government policies on resource allocation and equitable distribution of income. Public economics helps to analyze and identify the effect of public policy on various macroeconomic indicators. The course facilitates to develop the economic and social intuition of government expenditures, Taxes and various social security benefits associated with public financing. It helps the understanding of the effects of public policies and enables students to envisage the consequences of these policies even before they are implemented.

**Course Contents:**

1. Introduction to Public Finance: Role and Function of the Government.

2. Welfare economics, the fundamental theorems of welfare economics, Market failure, Consumer and producer surplus
3. Public and Private Goods, the free rider problem; Pareto optimal supply of public goods, Public choice
4. Externalities, the nature of externalities, Externalities and Market Failures, Pigovian taxes  
Private and public responses to externalities, Implications for income distribution
5. Taxation and Fundamental Tax Reforms, Taxation and Income Distribution, Tax incidence, Taxation and Efficiency, Excess Burden, Impact of taxes on market prices and output; deadweight loss in the long and short run, Ramsey Rule, Optimal Income Taxation
6. Impacts of subsidies on market equilibrium, deadweight losses in the long and short run
7. Market Failures; Cost Benefit Analysis
8. Social Insurance and Security
9. Income Distribution and Welfare Reforms
10. State and Local Public Economics: Overview of Fiscal Policy in Pakistan

### **Essential Readings:**

1. Public Finance- 10<sup>th</sup> edition by Ted Gayer and Harvey S. Rosen, 2010;
2. State and local public finance-3<sup>rd</sup> edition by Ronald C. Fisher, 2006;
3. Reports of State Bank Of Pakistan
4. Reports of World Bank

## **ECONOMIC GROWTH**

### **Description:**

This is an advanced undergraduate course in Economics, dealing with theoretical and empirical examination of economic growth and income differences between countries. The course focuses on both the historical experience of countries that are currently rich and the process of catch-up among poor countries. Topics include underlying determinants of economic growth, including population growth, accumulation of physical and human capital, technological change, natural resources, income distribution, geography, government, and culture.

### **Course Contents:**

#### **Introduction and Overview:**

This section includes discussions on the facts about economic growth, differences in the level of income among countries, differences in the rate of income growth, growth before and after 19<sup>th</sup> century, the production function and the lessons from data.

## **Factors of Production:**

**Physical Capital:** the nature of capital, capital's role in production, the Solow growth model, the relationship between investment and saving, and exogenous versus endogenous factors.

**Population and Economic Growth:** population and output in the long-run, the Malthusian model, population growth in the Solow model, demographic transitions, future population trends, and the economic consequences of demographic change.

**Human Capital:** human capital in the form of health, human capital in the form of education, modeling the interaction of health and incomes, changes in the level of education, education and variation in income across countries.

## **Productivity and Technology:**

Measuring productivity, differences in productivity and growth rates of productivity among countries, the role of Technology in growth, the nature, transfer and determinants of technology, research and development, patents, modeling the relationship between Technology creation and growth, barriers to technology transfers, the cutting edge technology, the industrial revolution, the technology production function, differential technological progress, efficiency, differences in efficiencies, types of inefficiencies, misallocation of factors.

## **Growth in the Open Economy:**

Autarky versus openness, Globalization, the effect of openness on economic growth, effects of geographical barriers, openness and factor accumulation, growth with capital mobility, openness and productivity, trade as a form of technology, openness and technological progress, and opposition to openness.

## **Fundamentals behind Economic Growth:**

**Government:** Government's role in economy, governance and rule of law, taxation, efficiency and the size of government, planning and policies, corruption and Kleptocracy, democracy and economic growth, causation from government quality to income.

**Income Inequality:** Facts about income equality, the Kuznet Hypothesis, effects of income inequality on the accumulation of physical and human capital, and economic growth.

**Culture:** the effect of culture on economic growth, openness to new ideas, hard work, saving behavior, trust, social capital, cultural change, determinants of cooperation.

**Geography, Climate and Natural Resources:** Location, trade and growth, geographic concentration and spillovers, climate and productivity, climate and disease, natural resource endowment and economic growth, the curse of natural resources, incorporating natural resources into the analysis of economic growth.

### **What We have Learned and Where we are Headed:**

#### **Recommended Books:**

##### **Main textbook:**

1. David N. Weil, *Economic Growth*, 3<sup>rd</sup> edition (2012). Pearson Addison-Wesley.

There is a website for this book <http://www.aw-bc.com/weil/>, on which you will find some useful materials.

1. Charles I. Jones and Dietrich Vollrath, *Introduction to Economic Growth*, 3<sup>rd</sup> edition (2013). W. W. Norton & Company.

##### **Additional readings:**

1. Elhanan Helpman, *The Mystery of Economic Growth*, (2010). Belknap Press of Harvard University Press.

2. William R. Easterly, *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics*, (2008). The MIT Press.

## **MATHEMATICAL ECONOMICS II**

### **Course Description:**

This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The first course covered single variable functions and optimization and this course covers the essentials of linear algebra and optimization techniques required for the analysis of functions of several variables that are commonly used in economics.

### **Course Outline:**

#### **1. Differential equations:**

First-order differential equations; integral curve, direction diagram and slope field; qualitative theory and stability.

#### **2. Linear algebra:**

Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.

### 3. Functions of several real variables:

Geometric representations: graphs and level curves; differentiable functions: characterizations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterizations and applications.

### 4. Multi-variable optimization:

Convex sets; geometric properties of functions: convex functions, their characterizations, properties and applications; further geometric properties of functions: quasiconvex functions, their characterizations, properties and applications; unconstrained optimization: geometric characterizations, characterizations using calculus and applications; constrained optimization with equality constraints: geometric characterizations, Lagrange characterization using calculus and applications; properties of value function: envelope theorem and applications.

### Readings:

1. K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia, Delhi, 2002.
2. A.C. Chiang, *Fundamental Methods of Mathematical Economics*. N.Y, McGraw Hill Co, Latest edition.

## ISSUES IN PAK ECONOMY

### Objectives:

To introduce students about:

- the key features of macroeconomic management in Pakistan
- the process of macroeconomic management in Pakistan
- critical issues facing macroeconomic management in Pakistan

### Course Plan:

- **Quick Review of National Income Accounts**
  - GDP (Nominal and Real) and GNP
  - Measure of Inflation and Employment
  - Problems with GDP as a Measure of Social Welfare
  - Beyond GDP
    - Basic Needs Approach
    - HDI Approach and its Calculation
- **Review of Alternative Models of Economic Management**
  - Markets or Liberal Capitalism
  - Socialism or State Capitalism
  - Social Democracy or Mixed Economy
  - Islamic Economics or Islamic Capitalism
  - Pakistan's Models of Economic Management

- **Background of Pakistani Economic Management**
  - Why we are Doing What We are Doing
    - British Colonialism and Muslim Responses
    - Ali Garh and the Upbringing of Muslim Nationalism
    - Muslim League and its Targets
    - Relationship between Muslim Nationalism and Capitalism
- **Agricultural Sector of Pakistan**
  - Is Pakistan Feudal or Capitalist?
  - Nature of its Structure Before British Rule
  - British Regulations and the Emergence of Markets
  - 1947-58: The Neglected Agriculture Sector
  - The Green Revolution and its Impacts
    - Evaluation of Green Revolution as Development Strategy
  - Land Reforms (both of Ayub and Bhutto)
  - Key Issues in Pakistan's Agricultural Sector
- **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
  - Key Issues in Pakistani Industry
- **Fiscal and Monetary Policies and Inflation in Pakistan**
  - Fiscal Developments
    - Structure and trends in revenue
    - Structure of expenditures and trends of fiscal deficit
    - Issues with 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 Issues in 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
- **Structural Adjustment Program (SAP) and Pakistan**
  - Globalization and Export of Development Thinking
  - Composition of SAP
  - Implementation of SAP in Pakistan
  - Evaluation of the Results of SAP
  - Did Pakistan need to go for SAP?

- Why does Pakistan Adopt IMF Program
- **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 in Pakistan
  - Exchange Rate Regimes in Pakistan
  - The weakening currency of Pakistan
  - Why can't Muslims adopt a common currency?
- **Social Sector in Pakistan**
  - Health Sector and its Issues
  - Education and its Issues
  - Gender Inequality
  - Regional Inequalities
  - Structure of Population
    - Population: Asset or Liability?
  - Urbanization and Housing
  - Infrastructure
  - Poverty and Income Distribution
    - Measurement Issues
    - Trends In Poverty and Income Distribution
    - Is Poverty *the* Problem?
    - Does growth eliminate or create Poverty?
    - Poverty Alleviation Strategies and their Failure
- **Recent Challenges Facing Pakistan Economy**
  - Deteriorating Law and Order Situation
  - Energy Crises
  - Rising Circular Debt

***Reading Material:***

1. Zaidi Akbar (2006), *Issues in Pakistan's Economy*, Oxford University Press, Karachi
2. Ishrat Hussain, (2007) *Pakistan: The Economy of an Elite State*, Oxford University Press, Karachi
3. Ishrat Hussain, (2009) "Pakistan's Economy-1999/2000-2007/2008: An Objective Appraisal", *Business Review*, Vol 4 (1): p. 7-48; IBA, Karachi
4. *Pakistan Economic Surveys*

# Experimental and Behavioral Economics

## Introduction to Basic Game Theory:

### Details:

- Extensive Form Games, solution by backwards induction,
- Strategies
- Normal Form Games, Dominance
- Nash Equilibrium
- Dominance Solvable Games

**Readings:** Notes for Lecture 1, 2 and 3 available at:

<https://sites.google.com/site/uzmaexpecon/?pli=1>

Chapter 1, 2 and 3 available at:

<http://jourdan.ens.fr/~laffargue/teaching/Incertain/Problemes/lectnotes.pdf>

## Why do we need Experiments:

### Details:

- Why do we need experiments?
- Experimental Methods: Advantages and Limitations
- Different types of experiments

**Readings:** Experimental Economic by Davis and Holt: Chapter 1 "Introduction and Overview"

## Altruism and Fairness: Ultimatum Game:

### Details:

- Ultimatum Game: Theory and Results
- What is altruism and Fairness?
- Dictator Game and Altruism

**Readings:** Ultimatum Game: from Chapter 2 of Colin Camerer: Behavioral Game Theory

## Public Good Game and Free-Riding:

### Details:

- Public Good Game: theory and Practices
- Free Riding and Voluntary Contribution Dilemma
- Factors to Alleviate Free Riding

**Readings:** Experimental Economics by Davis and Holt: Chapter 6, "Public Goods, Externalities and Voting"

## Experimental Labor Market:

### Details:

- Employment Relations
- Incentives and Performance

- Market vs. Social exchanges

**Readings:** Behavioral and Experimental Economics edited by Durlauf and Blume: Experimental Labor market by Falk and Gächter  
Heyman and Ariely (2004), Effort for payment. A tale of two markets, Psychological Science.15(11):787-93.

### **Trust, reciprocity, Incentives and Crowd-Out:**

#### **Details:**

- Gift Exchange mechanism
- Reciprocity and Trust
- Incentives and internal and External motivation
- Crowding out of internal motivation
- Monetary and Non-monetary incentives

### **Readings:**

1. The Currency of Reciprocity - Gift-Exchange in the Workplace (2011) by Sebastian Kube, Michel André Maréchal and Clemens Puppe (Working Paper No. 377, Institute for Empirical Research in Economics, University of Zurich)
2. PUTTING BEHAVIORAL ECONOMICS TO WORK: TESTING FOR GIFT EXCHANGE IN LABOR MARKETS USING FIELD EXPERIMENTS: by URI GNEEZY AND JOHN A. LIST (Econometrica, Vol. 74, No. 5 (September, 2006), 1365–1384)
3. A FINE IS A PRICE (2000) by URI GNEEZY and ALDO RUSTICHINI

### **Bargaining and Auctions:**

#### **Details:**

- Structured and unstructured Bargaining
- Bilateral Bargaining: Ultimatum Game
- Multilateral Bargaining: Auction
- Different Auctions

**Readings:** Experimental Economic by Davis and Holt: Chapter 5 "Bargaining and Auctions".

### **Social Norms and Economic Behavior:**

#### **Details:**

- Social Norms
- Role of expectations
- Self Image

**Readings:** Do the Right Thing: But Only if Others Do So, by Cristina Bicchieri and Erte Xiao.

# ECONOMICS OF ENTREPRENEURSHIP AND INNOVATION

## **Course Description:**

This course will be enabled the students to establish evolutionary and innovative ideas for the personal as well as economic growth. Students will become familiar, through a mix of theory and case studies, with both the major characteristics of innovation and key aspects of the nature of entrepreneurship. This course helps the students to start their own small or medium scale businesses as the need of the economy. This course is designed for better understanding of personal as well as business finance.

## **Course Contents:**

### ***Economics of Daily Life:***

Producers and Consumers, Goods and Services, Scarcity, Trade-offs and Opportunity Cost, Supply and Demand, Economic Systems

### ***Concept of Entrepreneurship:***

Definition of Entrepreneurship, Difference between Inventor and Entrepreneur, Identification of entrepreneurs, Ethnic Issues related to Entrepreneurship, Differentiation between product based and service based business, Factors differentiating Regional Economies.

### ***Theories of Entrepreneurship:***

Early Theories, Occupational Choice Models, Theory of the Firm Consideration, Agency Cost Theory, Macroeconomic Theories for Entrepreneurs, Equilibrium Model.

### ***Role of Entrepreneur in an Economy:***

Ways to Define the Strength of the Economy, Connecting Economics to Entrepreneurship, Role of Entrepreneur in Different Economic Systems, Importance of Entrepreneurs for the Growth of Nation and Economy, Discrimination of Entrepreneurship in Different Markets (Labor, Capital and Product)

### ***Income Generation and Entrepreneurs:***

Pros and Cons of Self-Employment, Reasons for Self Employment, Characteristics and Skills for Entrepreneur, Career Options

### ***Effects of Principles of Economics on Entrepreneur:***

Profit and Loss Evaluation, Competition, Supply and Demand, Factors of Production, Investment Decisions.

## **Recommended Books;**

1. Parker, Simon C., "The economics of Entrepreneurship" latest Edition, Cambridge University Press, USA, New York.

2. Hisrich, Robert D., Peters, Michael P. and Shepherd, Dean A., "Entrepreneurship" latest Edition, McGraw-Hill Companies, Inc. USA, New York.
3. Naqi, S. M., "Entrepreneurship: A Recipe for Economic Development" Latest Edition, Newfine Printing Press, Lahore.
4. Material Provided by the Course Instructor.

## **MONETARY ECONOMICS**

### **Objectives:**

This course is intended to provide the students a thorough understanding of monetary theory, financial markets, importance of money and interest rates along with the conduct of monetary policy in closed and open economy. This course also introduces the alternative monetary policy stances. In addition this includes the discussion of monetarists' and Keynesian views regarding inflation.

### **Course Contents:**

#### **Introduction and Development of Monetary Mechanism:**

Evolution of Money and Payment System. Definition of Money, Function of Money & Measurement of Money, Demand for Money & Supply of Money. Definitions of Money, M1, M2, M3, L etc. The Evolution of Monetary Thought, Quantity Theory of money, Keynesian Tradition, Monetarism and Modern Quantity Theory, Rational Expectation Theory.

#### **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 & Aggregate Supply Analysis. Keynesian Vs. Monetarist views of Equilibrium Output, Employment and Prices.

#### **Theory of Demand for Money:**

Quantity Theory of Money. Transaction Theories of Demand for Money. Portfolio Theories of Demand for Money. Baumol – Tobin Model of Cash Management. Friedman's Restatement of Quantity Theory of Money: Empirical Evidence on the Demand for Money.

#### **The Money Supply Process:**

Monetary Base, Keynesian Liquidity Preference Framework, Friedman's Modern Quantity Theory of Money. Multiple Deposit Creation: Introducing the Money Supply Process. Determinants of the Money Supply: Exogenous and Endogenous. Understanding Movements in the Monetary Base, Money Multiplier. Velocity of Money and its variability. Explaining Depositor and

Bank Behaviour: the Complete Money Supply Model. Regressive Expectation Model.

### **The Conduct of Monetary Policy: Central Bank**

Structure and Functions of Central Bank. Independence of Central Bank and its role in Economic Growth. Tool of Central Bank for Money Control. Monetary Base. The Conduct of Monetary Policy: Goals and Targets. Tools of Monetary Policy: Three Major Tools of Monetary Policy. Required Reserve Ratio, Discount Window Loans and Open Market Operation. Advantages and Disadvantages and Impact Analysis of each Policy Tool. Central Bank as a lender of last Resort. Financial Intermediaries. Monetization of Public Debt. Ineffectiveness of Stabilization Policies. Targeting interest rate and inflation.

### **Money & Interest Rates:**

Determinants of interest rates. Kinds of Interest Rates. The Behavior of Interest Rates. Understanding & Measuring the Interest Rates. Real & Nominal Interest Rates, Theories of Interest Rate Determination. The Risk and Term Structure of Interest Rates. The Distinction Between Interest Rates and Returns. Maturity & Volatility of Bond Returns. Portfolio Choice: the Theory of Asset Demand.

### **Money and Inflation:**

What is Inflation & Causes of Inflation? Demand – pull Inflation, Cost – push Inflation, Stagflation & Hyperinflation. Inflation as a Monetary Phenomenon. The Philips Curve and Accelerating Inflation. Inflation in Pakistan: Sources and Managing Policies. Sources of Inflation in Pakistan: Spiracle Evidences. Policies to Combat Inflation in Pakistan.

### **Monetary Policy in International Framework:**

Money Demand and Empirical Evidences. Money in Growth Models. Inflationary Spiral. Current Issues in Monetary and Financial Sector Reforms. Conduct of Monetary Policy in Fixed and Flexible Exchange Rates. Perfect Mobility of Capital and Money Control, Effectiveness of Policy. Impact of Reserves on B.O.P and Exchange Rates. Targeting exchange rate. Managed Exchange Rate System and Monetary Policy. Targeting Inflation. Exchange Rate and Balance of Payment.

### **Recommended Books:**

1. Mishkin, Frederic S., (2001), the Economics of Money, Banking and Financial Markets. (Sixth edition). Addison Wesley, New York. Latest edition
2. Bennett T. McCallum, (1989), Monetary Economics, Theory and Policy, McMillan. latest edition.

### **Additional Readings:**

1. Fredric S. Mishkin, (1995), *Financial Markets and Money*, Harper & Row Publishers.
2. Laider, David E.W (1996), *The Demand for Money: Theories, Evidence and Problems (Fourth edition)*, Harper & Row, Publishers, New York.
3. Miller, R. L. and David VanHose, (2001), *Money, Banking & Financial Markets*. South Western, Singapore.
4. Vanish K., *Monetary Theory*, (2000), Vikas Publishing House, Delhi.
5. Patinkin Don, *Money, Interest and Prices*, Harper and Row Publishers, (Latest Edition)
6. Handa J. (2000), *Monetary Economics*, London: Routledge.

## **WELFARE AND HAPPINESS ECONOMICS**

This module is designed to provide a basic understanding of human development and capability approach to the postgraduate and undergraduate students of various disciplines of social sciences. The module emphasizes the centrality of human being in development discourse, practice, policy and research. It is argued throughout the module that development is about enhancing human freedoms and flourishing human capabilities. The process of development should enable individuals to act as the agents of change to live the kind of life they have reason to value. It is also argued that the public policy needs to respect the fundamental principles of human development; equity, empowerment, sustainability, and efficiency.

The course is divided into three main sections. The first section, consisting of topics 1-3, provides the conceptual foundations of human development and capability approach. The section, consisting of topics 4-10, provides the applications of the concepts of human development and capability approach to various issues of development. The third and final section, consisting of topics 11-12, provides an overview of the policy analysis from the human development perspective.

The structure of this module is based upon the first textbook on human development, ***An Introduction to the Human Development and Capability Approach: Freedom and Agency (2009)***. This textbook is an outcome of a project by the Oxford Poverty and Human Development Initiative (OPHI) and is published by the Earthscan Publishers. The textbook is edited by Severine Deneulin and Lila Shahani, and several authors have contributed chapters. The book is an open source document and available at IDRC website.

### **Course Contents:**

#### **1. Ethics and development: Normative framework for development**

Normative concerns lie at the heart of development analysis and policy. Development policy and uncertainty, trade-off, and complexity

Any public policy is based on ideas about what matters. Different kinds of ideas lead to different kinds of actions (e.g. poverty reduction policies depend on how poverty is conceptualised).

The output or impact on wellbeing of any given policy varies depending on the context of countries or societies.

Concerns for people should come first in social and economic progress

## **Readings:**

### **Key reading**

1. Alkire, S. and Deneulin, S. (2009): "Normative framework for development", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

### **Further Readings:**

1. Cowen, M.P. and R. W. Shenton (1996), *Doctrines of Development*, London: Routledge
2. Deaton, Angus (1997), *The Analysis of Household Surveys: A Microeconomic Approach to Development Policy*, Baltimore: John Hopkins University Press
3. Easterly, Bill (2001), 'The Lost Decades: Explaining Developing Countries' Stagnation in Spite of Policy Reform 1980-88', *Journal of Economic Growth*, 6(2): 135-57.
4. Gore, Charles (2000), 'The Rise and Fall of the Washington Consensus as a Paradigm for Developing Countries', *World Development*, 28(5): 789-804.
5. Preston, P.W. (1996), *Development Theory: An Introduction*, Oxford: Blackwell
6. Rist, Gilbert (1997), *The History of Development: From Western Origins to Global Faith*, London: Zed
7. Ruggeri Laderchi, Caterina, Ruhi Saith and Frances Stewart (2003), 'Does it matter that we do not agree on the definition of poverty?', *Oxford Development Studies*, 31(3): 243-74.
8. Stewart, Frances, Gustav Ranis and Alejandro Ramirez (2000), 'Economic Growth and Human Development', *World Development* 25(2): 197-209.

## **2. Introduction to the Human Development and Capability Approach**

Objectives of development

Advent and influence of UNDP's Human Development Reports on development discourse and policy Values, priorities and public debate

Agency, voice and empowerment

Plural information and many dimensions

Core principles for development; Equity, Efficiency, Participation, and Sustainability, Amertiya Sen's Capability Approach  
Functioning and Capabilities  
Compare and contrast of Capabilities Approach with other approaches,  
Selecting valuable capabilities  
Individual and collective capabilities

## Readings:

### Key reading

1. Alkire, S. and Deneulin, S. (2009): "The Human Development and Capability Approach", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

### Further Readings

1. Alkire, Sabina (2002), 'Dimensions of Human Development', *World Development*, 30(2): 181-205.
2. \_\_\_\_\_ (2005), 'Why the Capability Approach', *Journal of Human Development*, 6(1): 115-33.
3. Barro, Robert and Xavier Sala-i-Martin (2003), *Economic Growth*, Cambridge: MIT Press
4. Layard, Richard (2005), *Happiness: Lessons from a New Science*, London: Allen
5. Nussbaum, Martha (2000), *Women and Human Development*, Cambridge University Press
6. Robeyns, Ingrid (2005), 'The Capability Approach – A Theoretical Survey', *Journal of Human Development*, 6(1): 93-114.
7. Sen, Amartya (1980) 'Equality of What?', in S. McMurrin (ed.) *Tanner Lectures on Human Values*. Cambridge: Cambridge University Press
8. \_\_\_\_\_ (1989), 'Development as Capability Expansion', *Journal of Development Planning* 19: 41–58, reprinted in Sakiko Fukuda-Parr and A.K. Shiva Kumar (eds) (2003), *Readings in Human Development*, Oxford University Press, pp. 3-16.
9. \_\_\_\_\_ (1992) *Inequality Re-Examined*, Oxford: Clarendon Press
10. \_\_\_\_\_ (1999), *Development as Freedom*, Oxford University Press
11. \_\_\_\_\_ (2000), 'A Decade of Human Development', *Journal of Human Development*, 1(1): 17-23.
12. \_\_\_\_\_ (2004), 'Capabilities, Lists and Public Reason: Continuing the Conversation', *Feminist Economics* 10(3): 77–80.
13. Todaro, Michael (2006), *Economic Development*, 9<sup>th</sup> edition, Harlow: Pearson Addison-Wesley
14. Ul Haq, Mahbub (1995), *Reflections on Human Development*, New York: Oxford University Press
15. \_\_\_\_\_ (2003), 'The Human Development Paradigm', in S. Fukuda-Parr and A.K. Shiva Kumar (eds), *Readings in Human Development*, Oxford University Press, pp. 17-34.

16. Ul Haq, Khadija and Richard Ponzio (eds), *Mahbub ul Haq: An Intellectual Biography*, Delhi: Oxford University Press
17. UNDP (1990), *Human Development Report*, New York: Oxford University Press, introduction, available at <http://hdr.undp.org/en>.

### 3. Contemporary development ideas

Human development and market liberalism: Freedom compared  
 How the idea of freedom spread? The Basic Needs Approach  
 Human Rights  
 Human Security  
 Other related human development ideas  
 The Millennium Development Goals (MDGs) Sustainable Development

#### Readings:

##### **Key Reading**

1. Deneulin, S. (2009): "Human Development and related ideas", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

##### **Further Readings**

1. Alkire, Sabina and Angus Ritchie (2007), 'Winning Ideas: Lessons from Free-Market Economics', *OPHI Working Paper 6*, Oxford Poverty and Human Development Initiative, Oxford, available at <http://www.ophi.org.uk>
2. Anand, Sudhir and Amartya Sen (2000), 'Human Development and Economic Sustainability', *World Development*, 28(12): 2029-49.
3. Commission on Human Security (2003), *Human Security Now*, available at <http://www.humansecurity-chs.org/>
4. Desai, Meghnad (1991), 'Human Development: Concepts and Measurement', *European Economic Review*, 35: 350-7.
5. Emmerij, Louis, Richard Jolly and Thomas Weiss (2001), *Ahead of the Curve?: UN Ideas and Global Challenges*, Bloomington: University of Indiana Press
6. Fukuda-Parr Sakiko and Shiv Kumar (eds) (2003), *Readings in Human Development*, Delhi: Oxford University Press
7. Jolly, Richard (2003), 'Human Development and Neo-Liberalism', in Fukuda-Parr and Kumar (eds), *Readings in Human Development*, Delhi: Oxford University Press, 82-92.
8. Sen, Amartya (1981), *Poverty and Famines*, Oxford: Clarendon Press
9. \_\_\_\_\_ (1999), *Development as Freedom*, Oxford University Press
10. \_\_\_\_\_ (2005), 'Human Rights and Capabilities', *Journal of Human Development*, 6(2): 151-166.

11. Srinivasan, T. N. (1994), 'Human Development: A New Paradigm or Reinvention of the Wheel?', *The American Economic Review*, 84(2): 238-243.
12. Streeten Paul (1994), 'Human Development: Means and Ends', *The American Economic Review*, 84(2); 232-7.
13. \_\_\_\_\_ (2003), 'Shifting Fashions in Development Dialogue', in Fukuda-Parr and Kumar, 68-81.
14. Streeten, Paul *et al.* (1981), *First Things First: Meeting Basic Human Needs in Developing Countries*, World Bank: Washington DC
15. UNDP (2000), *Human Development Report: Human Rights and Human Development*, Oxford University Press
16. World Commission on Environment and Development (1987), *Our Common Future*, New York: Oxford University Press

#### **4. Economic growth and human flourishing**

Growth and flourishing in the history of economic thought

Contribution of economic growth to human flourishing

Economic growth is one of the several necessary ingredients for promoting human flourishing

GDP fails to promote human flourishing for two main reasons; 1) income is a poor measure of wellbeing and 2) it masks inequity in the distribution of income and material consumption

Economic policies over last three decades have tended to focus more narrowly on efficiency and growth alone, ignoring equity and public engagement thus sidelining concerns for human flourishing. This has resulted in inequities, insecurity and environmental damage

Finding 'best' growth and development path

#### **Readings:**

##### ***Key reading***

1. Spence, R. (2009): "Economic growth", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

##### ***Further Readings***

#### **5. Human development, equality and justice**

Link of the capability approach with theories of equality and social justice

How capability approach differs from John Rawls's theory of justice

Introduction to the underlying purpose and main ideas of theories of justice

Implications of a capability based approach to justice for policy design and other intervention strategies.

## **Readings:**

### ***Key Reading:***

1. Robeyns, I. (2009): "Equality and Justice", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

### ***Further Readings:***

#### **Poverty and Inequality Measurement:**

Importance of measurement in policy  
Income poverty and inequality  
Standard Human Development Indices  
Measuring multi-dimensional poverty  
Why concepts matter in measurement  
Measuring freedom  
Qualitative poverty assessments

## **Readings**

### ***Key Reading***

1. Alkire, S. and Santos, M. E. (2009): "Measurement", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

### ***Further Readings:***

#### **Markets, institutions and public action:**

Institutions in economic development  
    The institutional turn  
    Testing the theory  
    From formal rules to informal norms  
Institutions as a 'grand' theory of development  
Markets  
    Markets as institutions  
    Markets in mainstream economic theory  
    Institutionalist definitions of markets  
    From 'self-regulated' to 'socially-regulated' markets  
Institutions and markets in the human development approach

## **Readings:**

### ***Key Reading***

1. Johnson, S. (2009): "Institutions and economic development", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

## ***Further Readings:***

### **Human Agency and Democracy:**

Democracy as polyarchy  
More than free and fair elections  
Beyond instrumentalism  
Beyond the divides  
Beyond the political boundaries  
Government by public reasoning  
Public action and global civil society  
Case studies: Costa Rica, Legitimacy of military rules; Nigeria, Chile, Indonesia, Turkey, Argentina

## **Readings:**

### ***Key reading***

1. Deneulin, S. (2009): "Democracy", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

## ***Further Readings:***

### **Education**

Conventional approaches to education  
Human Capital (instrumental role of education)  
Capability approach to education (both instrumental as well as intrinsic roles of education)  
Capability and functioning in education  
Case Study: *Two descriptions of education in Bihar, India*

## **Readings:**

### ***Key reading***

1. Unterhalter, E. (2009): "Education", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

## ***Further Readings:***

### **Health and Nutrition**

What is health?  
Conventional approaches to health  
    Human capital or health as input  
    Health as output  
Health within the human development and capability approach  
    Resource inputs and conversion factors  
    Capabilities and functionings

## Readings:

### **Key Reading**

1. Ariana, P. and Naveed, A. (2009): "Health" in: Deneulin, S. (ed.) *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

### **Further Readings:**

1. Anand, P. and M. V. Hees. (2006) 'Capabilities and achievement: An empirical study', *The Journal of Socio-Economics*, Vol. 35, pp268-284
2. Anand, S. and M. Ravallion. (1993) 'Human development in poor countries: On the role of private incomes and public services,' *Journal of Economic Perspectives*, Vol. 7, No. 1, pp133-150
3. Commission on Social Determinants of Health. (2008) *Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health*. Geneva, World Health Organization.
4. Gallup, J. L. and J. D. Sachs. (2001) 'The economic burden of malaria,' *American Journal of Tropical Medicine and Hygiene*, Vol. 64, No. 1, suppl, pp85-96
5. Marmot, M. (2006) 'Health in an unequal world: Social circumstances, biology and disease,' *Clinical Medicine*, Vol. 6, No 6, pp559-572
6. \_\_\_\_\_ (2007) 'Achieving health equity: From root causes to fair outcomes,' *The Lancet*, Vol. 370, 29 September, pp1153-63
7. Narayan, D., R. Chamber, M. Shah, and P. Petesch. (2000) *Voices of the poor*, New York, Oxford University Press for the World Bank
8. Osmani, S. and A. K. Sen. (2003), 'The hidden penalties of gender inequality: Foetal origins of ill-health,' *Economics and Human Biology*, Vol. 1, pp105-121
9. Ranis, G., F. Stewart and A. Ramirez. (2000) 'Economic growth and human development', *World Development*, Vol. 28, No. 2, pp197-219
10. Ruger, J. P. (2006) 'Health, capability, and justice: Towards a new paradigm of health ethics, policy and law', *Cornell Journal of law and public policy*, vol 53, no 2, pp403-82.
11. Sen, A. K. (1999) 'Health in development', *Bulletin of the World Health Organization*, Vol. 77, No. 8, pp619-23
12. \_\_\_\_\_ (2002) 'Why health equity?,' *Health Economics*, Vol. 11, pp659-66
13. UNICEF and Micronutrient Initiative (2005) *Vitamin and mineral deficiency: A global progress report*, [http://www.unicef.org/nutrition/index\\_hidden\\_hunger.html](http://www.unicef.org/nutrition/index_hidden_hunger.html)
14. WHO (2005) *Preventing chronic diseases: A vital investment: WHO Global Report*,

## **Human Development Policy Analysis:**

Main areas of public policy  
Areas of economic and social policy  
Framework and macro policies  
Resource, manufacturing and services sector policy  
Economic and social services  
Policy in the private, non-profit and international donors sector,  
Policy, politics and power  
Tools for policy analysis  
A human development approach to policy analysis

## **Readings:**

### ***Key reading***

1. Spence, R. and Deneulin, S. (2009): "Public policy analysis", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

### ***Further Readings:***

## **Policy Case Studies:**

Key questions to bear in mind while analyzing policy from human development perspective  
What is the problem to be addressed?  
What is the data needed to highlight the problem?  
What is being done to address the problem?  
Does the existing policy respects the four principles of human development; equity, empowerment, sustainability, and efficiency?  
In what ways the current policy can be reformed to effectively promote valuable human freedoms?

### ***Case Studies:***

A personal narrative of women's life in Ghana  
Gender policy in Turkey  
Fiscal Policy in Syria  
Security policy in Haiti  
Technical assistance policy in Afghanistan  
Post conflict policy in Liberia

## **Readings:**

### **Key Reading**

1. Deneulin, S. (2009): "Policy case studies", in: Deneulin, S. and Shahani, L. (Eds.). *An Introduction to the Human Development and Capability Approach: Freedom and Agency*. London: Earthscan.

## **POPULATION ECONOMICS**

### **Objective:**

This course introduces the students to the subject of demography. The course aims to educate students regarding basic demographic theories, study of demographic processes and population characteristics, demographic trends, basic methods of demographic analysis and the important demographic transitions. In the latter part of the course the focus will be on the relationship between population and issues such as urbanization, family change, population aging and health.

### **Course Contents:**

#### **1. INTRODUCTION**

Understanding Demography, Importance of Demography, Sources of Demographic Data, Processes of Demography

#### **2. THEORIES OF POPULATION**

Mercantilist Perspective, Malthusian Theory of Population, The Marxist Perspective, John Stuart Mill, Lujo Brentano's Theory, Emile Durkheim's Perspective, The Theory of Demographic Transition, Theory of Relative Income

#### **3. FERTILITY**

Understanding the Concept; Intercourse, Conception & Gestation Variables, Measuring Fertility, Period Measures of Fertility, Cohort Measures of Fertility, Fertility Trends, Fertility & Population Growth in Pakistan

#### **4. MORTALITY**

Components of Mortality; Lifespan, Longevity, Causes of Death, Measuring Mortality, Differentials in Mortality, Estimates of Mortality in Pakistan

#### **5. MIGRATION**

Definition & Measurement, Causes of Migration, Internal Vs International Migration, Individual & Social Consequences of Migration, Migration Trends in Pakistan: Causes & Consequences

## **6. 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

## **7. POPULATION GROWTH & AGEING**

Demographic Composition of the Elderly: Dynamic Scenarios, Biological & Social Aspects of Aging, Implications for the Society

## **8. URBANIZATION**

Demographic Components of Urbanization, Internal Rural-to-Urban Migration, Impact of Population Processes, and Urbanization in Pakistan: Trends, Causes & Consequences

## **9. POPULATION POLICY**

Need of Population Policy, Influencing Population Processes, Case Studies of Pakistan

### **Recommended Readings:**

1. **Weeks J. R.** (1989), *Population: An Introduction to Concepts and Issues*, Wadsworth Publishing Company, USA.
2. **Poston D. L. & L. F. Bouvier** (2010), *Population and Society: An Introduction to Demography*, Cambridge University Press, UK.

## **ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS**

**3 CR. HRS.**

### **Course Description:**

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments. Selected topics on international environmental problems are also discussed.

### **Course Outline:**

#### **Introduction:**

What is environmental economics; review of microeconomics and welfare economics.

**Limitation of market:**

Excludable and rival goods, common pool resources and public goods

**The Theory of Externalities:**

Pareto optimality and market failure in the presence of externalities; property rights and the Coase theorem.

**Valuing the Environment: Methods**

Introduction: theoretical aspects, Economic valuation of the environment: methodologies and Applications

**Benefit–Cost Analysis and Other Decision-Making Metrics:**

Framework of BCA and its applications, Divergence of Social and Private Discount Rates, Cost-Effectiveness Analysis, Impact Analysis

**The Design and Implementation of Environmental Policy:**

Overview; pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; selection of environmental policy instruments; implementation of environmental policy.

**International Environmental Problems:**

Trans-boundary environmental problems; global pollution; economic significance of biodiversity; economics of climate change; trade and environment.

**Measuring the Benefits of Environmental Improvements:**

Non-Market values and measurement methods; risk assessment and perception.

**Contemporary Issues in Environmental Economics with Reference to Pakistan:**

Energy crisis, Water footprints, Forests, Fisheries, Economics of Pollution,

**Sustainable Development:**

Concepts; Sustainability of Development, The Growth–Development Relationship measurement (conventional and alternative).

**Readings:**

1. Tom Tietenberg and Lynne Lewis *Environmental & Natural Resource Economics* Pearson Education, Inc., 9th Edition 2012
2. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2<sup>nd</sup> edition, 2010.
3. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W.Norton, 5th edition, 2005.

4. Roger Perman, Yue Ma, James McGilvray and Michael Common, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3rd edition, 2003.
5. Ian Wills, *Economics and Environment; A signaling and incentive approach*, 2<sup>nd</sup> edition, 2007
6. Freeman, A M, *The measurement of Environment and resource Values; Theory and Methods*, resource for the future, 2<sup>nd</sup> edition, 2003
7. Thomas Sterner, *Policy Instruments for Environmental and Natural Resource Management*, Resource for the future, 2003
8. Haab, T C and McConnell, K E, “*Valuing Environmental and Natural Resources; The Econometrics of Non-Market Valuation*”, Edward Elgar Publishing Ltd, 2002.

## **MANAGERIAL ECONOMICS**

### **Course Description:**

This course of managerial economics will help to understand the concept of this economic efficiency and will explain the procedure, how to measure it. Through this course, student will enable to discuss the effects of policy intervention on efficiency of resources as well as effects of government intervention on it. Students who successfully complete the course will have a good understanding of economic concepts and tools that have direct managerial applications. The course will sharpen their analytical skills through integrating their knowledge of the economic theory with decision making techniques.

### **Course Contents:**

#### **The Fundamentals of Managerial Economics:**

What Is Managerial Economics? The Nature and Scope of Managerial Economics, Firms and Managerial Objectives, The Managerial decision making process, Economic Optimization, Firms and Profits, Tools of Economic Analysis, Marginal Analysis, Theory of the firm. Profit maximization, Cost Minimization. Economic optimization. Economic relations of variables. The Incremental concept in Economic Analysis. Demand, Supply and Equilibrium

#### **Market Forces: Demand and Supply, Quantitative Demand Analysis:**

Demand, Supply, Demand Analysis, Elasticity, Price elasticity of demand and supply and use of derivative in finding elasticity of demand & supply, Point elasticity & Are elasticity, income elasticity of demand, cross elasticity of demand, Promotional elasticity of demand, Concept of partial elasticity, Measuring Economic Relationships, Statistical Relations and Regression Analysis, Forecasting, Methods of demand forecasting. Trend projections, smoothing techniques, Exponential smoothing. Econometric models, Simple

linear regression model, estimation etc, Multiple linear regression model estimation. Business Cycle, Time Series Trends

**Marginal Analysis:**

Consumer Behavior, Constraints, Consumer Equilibrium, Indifference Curve Analysis & Demand Curves

**Production and Cost:**

Theory of Production, Production functions. Total, Marginal and Average Product. Revenue and Cost in Production. Production function estimation. Productivity Measurement. Homogenous and Homothetic Production Function. Short run and long run cost curves. Cost estimation, Learning curves and application. Cost and Profit Analysis, Empirical Analysis of Production and Cost, Cost-value-profit analysis.

**Market Structure:**

Perfect Competition, Monopolies, Monopolistic Competition. Oligopoly. Selected Pricing Models. Marginalist Pricing. Mark up pricing. New Product Pricing. Oligopoly Model. Contestable Markets. Pricing Strategies for Firms and Market Power. Monopolistic Competition. Price Discrimination, Monoposony and Price Product. Measuring Firms' Performance, Making Decisions under Noncompetitive Conditions, Oligopolies, Game Theory: Inside Oligopoly, Pricing Methods, Pricing Strategies for Firm with Market Power.

**Managerial Theories and Models of the Firm:**

Baumol's Theory of Sales Revenue Maximization. Marris's Model of Managerial Enterprise. Williamson's Model of Managerial Discretion Topics, Behavioral Model by Cyert and March.

**Regulating the Market Economy:**

Economies of Scale, Taxes and Subsidies, Costs of Regulation

**Public Sector Production and Pricing of Goods:**

Public and Private Goods and their pricing mechanism. Decreasing cost Industry and pricing. Externalities and Market Pricing issues. Rent seeking and control. Government Policy and International Trade, tariff and pricing. Import Competitiveness and tax, International pricing Techniques /Strategies.

**Capital Budgeting and Investment:**

Pre-requisites of Capital Budgeting. Investment Criteria and Decisions. Cash flow estimation, Internal Rate of Return, Profitability-Index Criterion and other criterion. Optimal Capital Budget.

### **Decision Making:**

Decision Making under Uncertainty: Risk Analysis, Advanced Topics in Business Strategy.

### **Recommended Books:**

1. Baye, Michael, Managerial Economics and Business Strategy. Sixth Edition. Boston: McGraw-Hill Irwin, latest edition
2. Mark, Hirschey, Managerial Economics, latest edition, Thomson/South-Western College Publishing: 2003
3. Peterson, Craig, H., Lewis, W. Cris and Jain, Sudhir, K., Managerial Economics, latest Edition Pearson Education: 2009

## **ENERGY ECONOMICS**

### **Course Description:**

This course is the study of economic relationships in energy production, consumption, demand and supply, pricing and conservation, energy policy and the development of new and renewable energy sources. This course aims to provide students with the opportunity to study and develop a broader understanding of the economics of energy. There is mounting evidence that the current global energy system has been growing far beyond what is globally sustainable and already poses a serious, and potentially irreversible, threat to global environmental quality and stability in future decades.

### **Course Outline:**

#### **Overview and Fundamental Concepts:**

Energy in the Economy; Global Energy Problems and Issues, Fundamental Concepts: Energy, Power; Measuring energy: units and conversion factors, Laws of Thermodynamics, 1st Law and Entropy law, Input and output energy, energy efficiency, Energy conversions (technologies), Global Energy system sustainability issues, Energy markets and energy prices; competitive market valuation and social valuation, Market Failures: Market power (monopoly, oligopoly, and cartels), Externalities, Public goods and common property resources.

#### **Oil Resources and Economic Issues:**

Discounted cash flow analysis, reserve and resources, resource substitution, forecasting prices and speculation, Natural resource (oil) demand and supply, OPEC.

#### **Overview of Energy Economics and Global Energy Sustainability:**

Primary energy supply, secondary energy and energy end use demand/consumption, Energy, economic activity, and growth: energy intensity, global energy use forecasts, Energy conversion, energy

transportation and/or transmission, and clean energy use, Conditions for a sustainable global energy system, climate change and clean energy

### **Clean Energy Supply from Non-Conventional, Alternative and Renewable sources:**

Climate change and primary and secondary energy use, Energy Conservation policies, demand side management, Non-conventional and renewable alternative energy: Solar, Biomass, Wind, Geothermal, Tidal & other, Hydrogen energy, fuel cells

### **Energy Supply from Non-Renewable Fossil Fuel Resources:**

Fossil fuel resources and reserves model, Cartel models of global energy markets, Overview of Oil, Natural gas, and Coal industries, Backstop technologies and Non-renewable resource Pricing (Hotelling model), Clean fossil fuel use; carbon sequestration

### **Energy Conversion and Supply by Electric Utility Industries:**

Electric Power demand and load duration vs. Electric energy consumption, time-of-use, Electricity production technologies and electricity production cost trade-offs, Thermal, hydro, nuclear and renewables production and transmission of electricity, Electricity pricing issues, regulation and deregulation issues, Nuclear energy issues and prospects.

### **Sustainable Energy Policy**

Jaccard's Sustainable Energy System in 2100, Energy Policy of Pakistan, Sustainable energy options and criteria for comparison, Sustainable Energy Policy Alternatives and Climate Change, International Policy Initiatives.

### **Textbook:**

1. Mark Jaccard, *Sustainable Fossil Fuels: The Unusual Suspects in the Quest for Clean and Enduring Energy*, Cambridge University Press (2005)
2. Subhes C. Bhattacharyya *Energy Economics Concepts, Issues, Markets and Governance* Springer-Verlag London Limited (2011)
3. J.M. Griffin, and H.B. Steele (1985): *Energy Economics and Policy*, Academic Press
4. Tom Tietenberg and Lynne Lewis *Environmental & Natural Resource Economics* Pearson Education, Inc., 9th Edition 2012

# ECONOMICS OF EDUCATION

## Course Objectives:

The course aims to analyze the ways through which the education is organized and delivered to achieve economic growth in the most efficient ways. It helps to understand the efficacy of reforms pertaining to teacher salaries, student teacher ratio and charter schools. The course helps to develop an understanding of the importance of education in economic growth of a country. This course is intended to make students aware of the fact as to how education enhances labour productivity, earnings and distribution of income. It will further help the students to analyze the relation between education, inequality and poverty prevailing in the developing economies of the world.

## Course Contents:

1. Introduction : Defining economics and educational problem
2. Importance of Schooling
3. Econometrics overview, empirical research methods in the economics of education
4. Human Capital theory: The basic economic perspective on education
5. Education as a Signal: Signalling in the labour market
6. Returns to education in developing countries, with special reference to Pakistan, social rate of returns to education
7. Educational Production
8. Education and health
9. Education and inequality
10. School Accountability and Standards
11. Technology and Education
12. Role of state in education
13. Educational privatization

## Topic wise essential readings:

### 1. [ECONOMICS OF EDUCATION](#) by Dominic J. Brewer and Patrick J. McEwan ( 2010).

1. Autor, David, Frank Levy, and Richard J. Murnane. "The Consequences of Increasing the Nation's Supply of College Graduates." Policy Brief Written for the Gates Foundation. December, 2003
2. Feinstein, Leon. "Inequality in the Early Cognitive Development of British Children in the 1970 Cohort." *Economica* 70, no. 277 (2003): 73-97.
3. Introduction to Econometrics: 4<sup>th</sup> Edition by Christopher Dougherty, Oxford University Press (2011, 512pp)
4. Modern Labour Economics, Theory and Public Policy: Ronald Ehrenberg, Robert Smith, 11<sup>th</sup> edition.
5. Borjas, G. 2008. Labour Economics, pp.268-273.

6. Hanushek, E. A. 1986. "The Economics of Schooling: Production and Efficiency in Public Schools." *Journal of Economic Literature* 24(3): 1141-77.
7. Clotfelter, Charles T., and Helen F. Ladd. "Recognizing and Rewarding Success in Public Schools." Chapter 2 in *Holding Schools Accountable*. Edited by Helen Ladd. Washington, DC: Brookings Institution Press, 1996. ISBN: 9780815751038.
8. Rouse, Cecilia Elena, and Alan B. Krueger. "[Putting Computerized Instruction to the Test: A Randomized Evaluation of a 'Scientifically Based' Reading Program](#)." *Economics of Education Review* 23, no. 4 (2004): 323-338.

## **PUBLIC POLICY**

### **Course Description:**

In this course the students will learn about the different types and approach to policy, the problem and vision approach to policy development, examine the policy development cycle and how other governments (provinces and federal government) typically develop policy. Policy matters because it affects people's lives. Public policy is defined as "the things government chooses to do or not to do" for "societal benefit." Public policy addresses questions on "who gets what, when and how." This course is designed for both leadership (i.e. decision-makers) and staff; as leaders, participants learn about the kinds of questions that should be asked when directing and reviewing the development of policy. Students will learn how to complete 'due diligence' in order to support the leadership to make informed and effective decisions.

### **Course Outline:**

- I. Introduction:** Definition of Policy. Types of Policy: Broad, Specific and Operational Policy. Problem and Vision approach to policy development. Values, Vision and Policy: linkages and relationships. The policy development cycle and associated stages.
- II. Policy Science**  
Public Policy –Introduction, The Policy Problem, Approaches To Public Policy
- III. Institutions, Actors And Instruments**  
Policy Actors And Institutions, Issues In Public Economics, Market Failure And Intervention. Policy Instruments, Agenda Setting : Policy Determination , Policy Ideas And Policy Windows, Policy Formulation, Public Policy Decision Making
- IV. Implementation And Evaluation**  
Policy Design And Implementation Styles, Policy Evaluation

**V. Policy Development And Change In Practice** Policy Regimes And Policy Dynamics Evaluation: Does Policy Matter?

**Recommended Books:**

1. Michael Howlett and M. Ramesh, Studying Public Policy: Policy Cycles and Policy
2. Subsystems, Latest ed. (Toronto: Oxford University Press).
3. Michael C. Munger, Analyzing Policy: Choices, Conflicts, and Practices (New York: Norton). Latest Edition.

**INVESTMENT AND PROJECT APPRAISAL**

**Course Description:**

This course is related to the methodologies used in the selection and appraisal of investment decisions in both the private and the public sectors. Course will focus on the theory and practice of project appraisal and cost-benefit analysis and will discuss their theoretical underpinnings and practical limitations. The debates about how to account for secondary, external and environmental effects and about basing economic valuation on international prices are explored in some detail. An extended case study exercise, along with computer application, will provide practical exposure in financial and economic appraisal techniques, which helps the students to make right decisions about their future investment.

**Course Contents:**

**Introduction and Overview:**

Investment – an Overview, Investment Appraisal – Nature and Scope, Investment Appraisal and Financial Decision Making, Cost-Benefit Analysis – Issues and Evolution, Projects and Project Appraisal, Public and Private Sector Appraisal

**Investment Appraisal – Basic Evaluation Techniques:**

Introduction, Traditional Methods, Time Value of Money Methods

**Cash Flows, Capital Budgeting and Investment Decisions:**

Introduction, Identifying and Using Cash Flows, Capital Market Imperfections, Simple Ways to Cope with Risk

**Social and Economic Cost-Benefit Analysis:**

Cost Benefit Analysis – an Illustration, Identifying Costs and Benefits, Valuation of Costs and Benefits, A Case Study in Valuation – Putting Money on Human Life

### **Discount Rate, Risk and Uncertainty in Cost Benefit Analysis:**

Introduction, The Discount Rate, Theoretical Consistency and Derivation of a Social Rate of Discount, The Social Discount Rate in Practice: A Case Study on Discount Rate Policy in the UK, Risk and Uncertainty, Methods for Handling Risk and Uncertainty. A case study depicts the situation of Pakistan

### **Different Criterion for Project Evaluation:**

Discounted Measures, Like NPV, IRR, BCR, Net Benefit-Investment Ratio. Undiscounted measures for project worth. Comparative Analysis for Discounted Measures.

### **Income Distribution through Project Appraisal within and between Generations:**

Introduction – Income Distribution and Thorny Questions, Diminishing Marginal Utility of Income and Intergenerational Welfare Weights, Income Classes for Distributional Weights, Further Issues, Intergenerational Distribution, Case Study

### **Significance and Importance of Investment and Project Appraisal in Developing Countries:**

#### **Reading Material:**

1. Steve Lumby and Chris Jones: Corporate Finance: Theory & Practice, latest edition,
2. HM Treasury, “The Green Book, a UK government publication detailing the methods it uses in evaluating public service projects.” latest edition
3. David Potts,” Project Planning and Analysis for Development, latest edition
4. Pedro Belli, Jock Anderson, Howard Barnum, John Dixon and Jee-Peng, latest edition
5. Tan (2001) Economic Analysis of Investment Operations, latest edition
6. Richard Layard and Stephen Glaister, Cost-Benefit Analysis, latest edition

## **ETHICS, UNIVERSAL VALUES AND ECONOMICS**

### **COURSE CONTENTS:**

This course starts with basic concepts and definitions relating to ethics. Then it discusses the ethical theories. Special emphasis is given to those ethical theories which led to different classic and neo-classic theories of economics. The course introduces the Islamic philosophy of ethics along with its relevance to economics. The interrelationship between markets and virtues, vices or moral moderation is explained to investigate the role that ethics can play in economic behaviors. Some major types of professional ethics in

economic life are also analyzed to generate insights for fruitful economic understanding and analyses.

### **1. INTRODUCTION:**

Definitions, concepts, and origin of ethics. Concept of Values, definition and meanings of value, concept of good and bad, right and wrong, concept of values in all the religions of the world. Difference between ethics, value and norm. kinds of values; Moral values, cultural values, social values, spiritual values, religion values etc.

### **2. ETHICAL THEORIES BEHIND ECONOMICS:**

Outcomes-based ethics, Utilitarian ethics, Economic ethics, Duty-based ethics, Religious ethics, Kantian ethics, Virtue-based ethics; Aristotle, Adam Smith, Bentham, J.S Mill and McCloskey on ethics

### **3. ETHICAL PHILOSOPHY OF ISLAM:**

[Moral Virtues and Vices, economics implications of moral virtues and vices](#)  
[Diseases of the Soul and their Treatment](#)

Types of Moderation and Deviation, economics implications of moral deficiency, excess and moderation Diseases of soul

1. Diseases of the Power of Intellect, their treatment and economic relevance.
2. Diseases of the Power of Anger, their treatment and economic relevance.
3. Diseases of the Power of Passion, their treatment and economic relevance.
4. Diseases relating to combinations of all three powers and economic relevance.

### **4. UNIVERSAL VALUES:**

Definitions and concepts, Values in World Religions; values in Islam, Christianity, Judaism, Hinduism, Buddhism. Common ethical values in world religions, common ethical values in Islam vs. West.

Universal Values and Economics; Production, Consumption, Exchange, Distribution and Growth in perspective of universal values.

### **5. APPLICATIONS OF ETHICS IN ECONOMICS:**

1. Applications of Ethics in different fields of life; – Ethics in Professions,
  - Research ethics
  - intellectual property ethics –Ethics and cooperation – Ethics and competition – Ethics and marketing and media
  - Ethics and economic performance of manpower

## 6. CASE STUDIES:

Success and failure economic stories based on ethical reasons [The instructor will give examples of such stories throughout the course and will ask every student to submit a success or failure story as a term paper of 10 marks]

## SUGGESTED READINGS:

1. Ethics, Universal Values and Economics, a manual of selected essays, KIE, University of AJK
2. Economics and Ethics, Syed Nawab Haider Naqvi , The Islamic Foundation UK (1981)
3. On Ethics and Economics, Amartya Sen
4. Jami' al-Sa'adat (The Collector of Felicities) by Naraaqi; English translation by Gul M. Naqvi
5. Economic Analysis of Ethical Doctrines and Behavior Henry Hazlitt, *The Foundations of Morality*
6. Daniel Kahenman, Peter Walker and Rakesh Sarin, "Back to Bentham? Explorations of Experienced Utility," 112 *Quarterly Journal of Economics* (1997), pp. 375 – 405. **(B)**

## Digital resources:

[www.al-islam.org/al-tawhid/felicities/](http://www.al-islam.org/al-tawhid/felicities/)

A course on Ethics and Economics: [http://works.bepress.com/mario\\_rizzo/20/](http://works.bepress.com/mario_rizzo/20/)

Introduction to Philosophy and Ethics <http://www.virtualclassroom.net/tvc/phil/>

## Transport Economics

### Course Objectives:

This course will provide students with the basic concepts and tools for economic evaluation of transportation projects and related investments. Students should obtain basic skills in the analysis of travel demand and in the valuation and analysis of transportation system benefits. Students should also be able to understand different components of the costs of transportation, basic pricing principles, and how these factors affect the market for transportation infrastructure and services. Finally, students should be able to apply these concepts to analyze transportation investment decisions.

### Course Contents:

Economic analysis of transportation projects and transportation infrastructure investment, optimal pricing and investment, Travel demand analysis and the value of travel time saving consumers' surplus and producers' surplus measures, General equilibrium models for transportation economics, analysis of travel demand, benefits, costs, equilibrium, pricing, and market structure. Intro to microeconomic principles in transportation, Pricing alternatives,

road pricing and sustainable transportation, fare increases and the public transport fare adjustment mechanism, Price discrimination ,Road congestion pricing, Equity dimensions of transport policy, Cost function for transport firm, City formation and transport cost, , peak load and cost allocation problem, project appraisal and financing, Economics of transport logistics, ,Efficiency measurement theory and its application to transport, Theory of external cost, Transport and energy, Competition ,regulation and public service obligations, Public private partnership in transport ,transportation improvements and land values, returns to scale and road durability, Project evaluation, Congestion, Air quality, Fuel economy and safety, Transportation technology. Transportation and international Trade, Transportation and Economic Development.

### **Recommended Books:**

1. Palma, Andre De. A Handbook of Transport Economics. Edward Elgar Publishing, 2011
2. Émile Quinet, R. Roger William Vickerman, Principles of Transport Economics, Edward Elgar Publisher 2005
3. John Robert Meyer, José A. Gómez-Ibáñez, W. William B. Tye, \_Essays in Transportation Economics and Policy. A Handbook in Honor of John R. Meyer.

Title            A Handbook of Transport Economics  
*Elgar Original Reference Series*  
Editor            [André De Palma](#)  
Contributor    André De Palma  
Edition           illustrated  
Publisher        Edward Elgar Publishing, 2011  
Principles of Transport Economics  
Émile Quinet, R. Roger William Vickerman

# Institutional Economics

## Objectives:

A course in "Institutional economics" accomplishes a series of courses that constitute the basic training for economists. Before studying institutional economics students should master not only the fundamentals of general economic theory but have knowledge of the historical courses and humanities as well.

Pre-Requisite: It is assumed that the students should be familiar with the following courses: Microeconomics and Macroeconomics, game theory, industrial organization, economic history and history of economic thought.

1. Introduction to institutional analysis; The concept of institution: attempts at definition. Institutions and organizations. Functions of social institutions. Interaction situations and the types of norms: prisoners' dilemma-type situation; co-ordination situation; inequality situation. Enforcement characteristics. Institutional structure of a society. Formal and informal institutions. Sanctions for disobeying norms (self-enforcing sanctions, guilt, shame, informational sanctions, bilateral costly sanctions, multilateral costly sanctions). Conditions of norms' effectiveness. Interaction of formal and informal institutions. The limits of imitations of institutions from best-performing countries. The problems of their enforceability. The New Institutional Economics and modern institutionalism. Old institutional economics.
2. Transaction costs: The concept of transaction. Market and intrafirm transactions. Transaction costs as friction in the economy. Transaction costs and transformation costs. Interdependency between transaction costs and transformation costs. Types of market transaction costs and means of transaction costs minimization( search and information costs; measurement costs; bargaining and decision costs; supervision and enforcement costs). Comparative advantages and shortcomings of the legal enforcement mechanism. Reputation as a contract enforcement device. Ideal model of "perfect reputation". Shortcomings of the reputation as a contract enforcement mechanism. Reputation and the "free rider problem". Reputations aided by institutions. Contract enforcement in contemporary Russia.
3. The definition of property rights. Property rights in different legal traditions (common law and civil law traditions). The property rights approach: some basic concepts. Specification of property rights, the bundle of rights, partitioning of property rights, attenuation of property rights. Assigning of property rights: the internalization of externalities. The Coase Theorem. Critic of Coase (dynamic effects of alternative legal rules, wealth effect, distributional effects, strategic behavior and the problem of holding-out, endowment effect, sociological critic, unrealistic assumption about zero transaction costs). Alternative

property rights regimes. Common property (open access) and the tragedy of the commons. Exclusive property rights and the conditions for their emergence. The first economic revolution. Communal property. Optimal group size. Private property. Moral and economic aspects of private property. Public property. The emergence of property rights. The optimistic theory of the emergence of property rights (naive model). The interest-group theory of property rights. The costs of collective action. The theory of rent-seeking. Interest-groups and rent-seeking in the Russian economy.

4. Contracts: The definition of a contract. Legal and economic approach to contracts. Freedom of contract. Bounded rationality and contractual incompleteness. Asymmetric information (hidden characteristics, hidden information/ hidden action, hidden intentions) and opportunistic behavior. Adverse selection and the closing of markets. Signalling, screening and self-selection. Asset plasticity and moral hazard. Principal-agent problem and agency costs. A simple principle-agent experiment in the classroom. Controlling and preventing moral hazard (controlling the agent, incentive contracts, bonding, do-it-yourself method). Case study: crisis of the savings and loan associations in America as an example of moral hazard in financial markets. Attributes of transactions and the choice of a contract. Asset specificity, types of specific assets. Synergy effects, quasi-rents appropriation and hold-up problem. Classification of contracts (classical, neoclassical and relational contracting). Discrete alternative governance structures: market, hybrids and hierarchy. Self-enforcing agreements (Telser) and hostages (Williamson). Hybrids: specific assets and their safeguards. Institutional environment and its role in the choice of contract. GM and Toyota: different models for solving the problem of safeguards for specific investments. The role of trust. Economic approach to trust. Kreps: the trust game. Types of trust (contractual trust, competence trust and good will trust). Explaining the internal structure of formal organizations: transaction costs approach.
5. The new institutional theory of the firm: Neoclassical theory of the firm. Explanations of the firm in the new institutional theory (F.Knight, R. Coase, A. Alchian and H.Demsetz, O.Williamson, O.Hart). The market and the firm. Comparative analyses of the alternative coordination forms. Internal market and influence costs. The boundaries of the firm. Ownership structure of the firm. A theory of the owner-monitor. Competing forms of economic organization, relative advantages of alternative structures (proprietorships, partnerships, open corporation, regulated firms, public enterprises, nonprofit organizations, labor-managed firms). Separation of ownership and control in the open corporation. Opportunistic behavior of the managers and corporate control. Outsider and insider corporate governance. Privatization in Russia and other transition economies: how to control the managers.

6. The new institutional theory of the state: Social mechanisms for constraining open access. Contractual theories of the state (Locke, Rousseau), Hobbes predatory theory of the state. North's model of the state. The regulatory role of the state in the Russian economy.
7. The theory of institutional change: Stability of institutions and institutional change. The concept of institutional equilibrium. The main sources of institutional change. Centralized and spontaneous institutional change. The role of the state in the process of institutional change. The problem of compensation of the disadvantaged groups. Theories of selection of efficient institutions in the process of competition ( Alchian, Friedman). Institutional change and path dependence. Forms of path-dependence (weak form, semi-strong and strong forms). Institutional change in contemporary Russia.

### **Recommended Books:**

1. Elinor Ostrom, "Understanding Institutional Diversity" latest Edition, Princeton University Press
2. Marc Tool, "Institutional Economics Theory, Method, Policy" Latest Edition
3. Akerlof G.A. (1984) The Markets for "Lemons": Quality Uncertainty and the Market Mechanism" 84 Quarterly Journal of Economics, pp. 488-500
4. Alchian A., Demsetz H. (1972) Production, Information Costs and Economic 52 The American Economic Review, pp. 777-795
5. Coase R. (1937) The Nature of the Firm. 4 Economica, pp. 386-405
6. Coase R.H. (1960) The Problem of Social Cost. 3 Journal of Law and Economics 1-44
7. Dahlman C. (1979) The Problem of Externality. 22 Journal of Law and Economics, pp. 141-162
8. Eggertson Thr. Institutions and Economic Behavior.
9. Hart O. (1989) An Economist's Perspective on the Theory of the Firm. 89 Columbia Law Review, p. 1757
10. Joskow P. (1987) Contract Duration and Relationship-Specific Investments: Empirical Evidence from Coal Markets. 77 American Economic Review pp. 168-173
11. Milgrom P., Roberts J. Economics, Organisation and Management.
12. Milgrom P., Roberts (1992) J. Economics, Organization and Management. - Prentice-Hall Int.,.
13. North D. (1990) Institutions, Institutional Change and Economic Performance. Cambridge University Press,
14. Posner R. (1997) Social Norms and the Law: an Economic Approach. 87 American Economic Review, pp. 365-369
15. Rose C. Evolution of Property Rights. In: Newman P. The New Palgrave Dictionary of Economics and the Law. Vol. 2,.
16. Tullock G. Rent-seeking. (1987) In: The New Palgrave: A Dictionary of Economics. - L., Macmillan, 1987,
17. Varian H. Intermediate Microeconomics. A Modern Approach.

# Poverty and Inequality

## Objective:

The aim of this course is to introduce students to the subject of poverty and inequality. The emphasis will be on problems in the modern contemporary economy, but the topic will also be approached from an historical perspective, taking a longer term view of the distribution of income in human societies. In particular, we will examine why some individuals and groups have less access to resources and income than others. Students will learn the fundamental concepts, theories and methodologies that are used by economists to measure and understand questions related to the distribution of income. By the end of the course, students should expect to not only have a greater knowledge of the forces determining the extent of poverty and the distribution of income, but to have also gained some understanding of the methods used by economists and policy-makers to deal with them.

## COURSE OUTLINE:

What Is Poverty and Why Measure It?, The Concepts of Well-Being and Poverty, Measuring Poverty, Steps in Measuring Poverty, monetary poverty, capability approach, Poverty Lines, Relative Poverty, Absolute Poverty, Issues in Choosing an Absolute Poverty Line, Measures of Poverty, Headcount Index, Poverty Gap Index, Squared Poverty Gap (Poverty Severity) Index, Sen Index, The Sen-Shorrocks-Thon Index, FGT class of measures, multidimensional poverty index, Poverty Indexes: Checking for Robustness, Sampling Error, Measurement Error, Equivalence Scales, Choice of Poverty Line and Poverty Measure, Definition of Inequality, Measures of Inequality, Decile Dispersion Ratio, Gini Coefficient of Inequality, Generalized Entropy Measures, Atkinson's Inequality Measures, Inequality Comparisons, Measuring Pro-Poor Growth, Decomposition of Income Inequality, Poverty Profiles, Additive Poverty Measures, Determinants of Poverty, Household and Individual-Level Characteristics, Analyzing the Determinants of Poverty: Regression Techniques, Poverty Reduction Policies, The Analysis of Poverty over Time, Vulnerability to Poverty, Quantifying Vulnerability to Poverty. Poverty and inequality in Pakistan- How does Pakistan compare? Historical Trends- the longer term picture.

## SUGGESTED READINGS:

1. Jonathan Haughton and Shahidur Khandker (2009) Handbook on Poverty and Inequality. (World Bank Training Series) **ISBN-10: 0821376136**
2. Atkinson, A.B., B. Cantillon, E. Marlier and B. Nolan (2002), *Social Indicators. The EU and Social Inclusion*. Oxford: Oxford University Press.
3. Cowell, F. (1992), *Measuring Inequality*, 2nd edn. Hemel Hempstead: Harvester Wheatsheaf.

4. Fields, G. S. (2001), *Distribution and Development*. Cambridge, MA: MIT Press.
5. Foster, J.E., J. Greer and E. Thorbecke (1984), "A class of decomposable poverty measures", *Econometrica*, 52(3): 761-66.
6. Kakwani, N. (2003), "Issues in Setting Absolute Poverty Lines", *Poverty and Social Development Paper 3*. Asian Development Bank. .
7. Ravallion, M. (1994), *Poverty Comparisons*, Chur: Harwood Academic Publishers.
8. Sachs, Jeffrey (2005) *End of Poverty: Economic Possibilities for our Time* (New York, Penquin).

## **International Finance**

### **Objectives:**

International Finance is built on belief to understand the international economy, students need to learn how economic models are applied to real world problems. This subject develops a unified model of the international macroeconomy. The text provides detailed descriptions of major macroeconomic variables, covers the interest rate parity and purchasing power parity theories of exchange rate determination, takes an exhaustive look at the pros and cons of trade imbalances and presents the well-known AA-DD model to explore the effects of fiscal and monetary policy under both fixed and flexible exchange rates.

### **Course Contents:**

#### **International Finance**

#### **Course Outline:**

1. Introductory Finance Issues: Current Patterns, Past History, and International Institutions
2. National Income and the Balance of Payments Accounts
3. The Trade Imbalances
4. Foreign Exchange Markets and Rates of Return
5. Interest Rate Parity
6. Purchasing Power Parity
7. Interest Rate Determination
8. National Output Determination
9. The AA-DD Model
10. Exchange Rates and its management
11. Policy Effects with Floating Exchange Rates
12. Policy Effects with Fixed Exchange Rates
13. Short and long term financing
14. International finance in context of Pakistan

## **Recommended Books:**

1. Steve Suranovic, International Finance: Theory and Policy latest edition
2. Madura, International Financial Management 8th , Ed. Thomson/Southwest

## **Labor Economics**

### **Prerequisites:**

Microeconomics

### **Objectives:**

The objective of this course is to provide an introduction to the broad field of labor economics. Students will become familiar with models of how firms make decisions about their need for workers, how workers make labor supply decisions, and how wages and other benefits are determined. Historical labor market trends and other important issues that affect the labor market such as immigration, discrimination, and unions are also discussed. Throughout the course we will investigate the effects of relevant public policies (such as minimum wage, employment subsidies, and unemployment insurance) on the labor market.

### **Contents:**

1. Introduction: Overview of the Labor Market (C. McConnell et al., Chapter 1)
2. Labor Supply: (G. Borjas, Chapter 2)
3. Labor Demand: (G. Borjas, Chapter 4)
4. Labor Market Equilibrium: (G. Borjas, Chapter 5)
5. Compensating Wage Differentials. , (G. Borjas, Chapter 6)
6. Labor Quality: Investing in Human Capital (C. McConnell et al., Chapter 4)
7. The wage structure (C. McConnell et al., Chapter 8)
8. Mobility, Migration, and Efficiency (C. McConnell et al., Chapter 9)
9. Labor Market Discrimination: (G. Borjas, Chapter 10)
10. Labor Unions and Collective Bargaining (G. Borjas, Chapter 11/ C. McConnell et al., Chapter 10)
11. Labor Market Contracts and Work Incentives (G. Borjas, Chapter 12)
12. Unemployment (G. Borjas, Chapter 13)

### **Required Text:**

1. G. Borjas, Labor Economics, latest edition, McGraw-Hill.
2. McConnell et al., Contemporary Labor Economics, latest edition, McGraw-Hill,

### **Additional Texts:**

1. R. Ehrenberg and R. Smith, Modern Labor Economics, latest edition, Addison Wesley,

2. R. Elliott, Labor Economics: A Comparative Text, latest edition McGraw-Hill.
2. Hamermesh and A. Rees, The Economics of Work and Pay, latest edition, Harper and Row.
3. Sapsford and Z. Tzannatos, The Economics of the Labour Market, latest edition Macmillan.

# English I

**Objectives:** Enhance language skills and develop critical thinking.

## **Course Contents:**

Basics of Grammar

Parts of speech and use of articles

Sentence structure, active and passive voice

Practice in unified sentence

Analysis of phrase, clause and sentence structure

Transitive and intransitive verbs

Punctuation and spelling

### **Comprehension**

Answers to questions on a given text

### **Discussion**

General topics and every-day conversation (topics for discussion to be at the discretion of the teacher keeping in view the level of students)

### **Listening**

To be improved by showing documentaries/films carefully selected by subject teachers

### **Translation skills**

#### **Urdu to English**

### **Paragraph writing**

Topics to be chosen at the discretion of the teacher

### **Presentation skills**

Introduction

**Note:** *Extensive reading is required for vocabulary building*

## **Recommended Books:**

### **1. Functional English**

a) Grammar

1. Practical English Grammar by A. J. Thomson and A. V. Martinet. Exercises 1. 3<sup>rd</sup> Edition. Oxford University Press. 1997. ISBN 0 194313492

2. Practical English Grammar by A. J. Thomson and A. V. Martinet. Exercises 2. Third edition. Oxford University Press. 1997. ISBN 0 194313506.

- b) Writing
  - 1. Writing. Intermediate by Marie-Christine Boutin, Suzanne Brinand and Françoise Grellet. Oxford Supplementary Skills. Fourth Impression 1993. ISBN 0 19 435405 7 Pages 20-27 and 35-41.
- c) Reading/Comprehension
  - 1. Reading. Upper Intermediate. Brian Tomlinson and Rod Ellis. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 453402 2.
- d) Speaking

## **English II (Communication Skills)**

**Objectives:** Enable the students to meet their real life communication needs.

### **Course Contents:**

#### **Paragraph writing**

Practice in writing a good, unified and coherent paragraph

#### **Essay writing**

Introduction

#### **CV and job application**

Translation skills

Urdu to English

#### **Study skills**

Skimming and scanning, intensive and extensive, and speed reading, summary and précis writing and comprehension

#### **Academic skills**

Letter/memo writing, minutes of meetings, use of library and internet

#### **Presentation skills**

Personality development (emphasis on content, style and pronunciation) *Note: documentaries to be shown for discussion and review*

### **Recommended Books:**

#### **Communication Skills**

##### a) Grammar

- 1. Practical English Grammar by A. J. Thomson and A. V. Martinet. Exercises 2. 3<sup>rd</sup> Edition. Oxford University Press 1986. ISBN 0 19 431350 6.

- b) Writing
1. Writing. Intermediate by Marie-Christine Boutin, Suzanne Brinand and Francoise Grellet. Oxford Supplementary Skills. Fourth Impression 1993. ISBN 0 19 435405 7 Pages 45-53 (note taking).
  2. Writing. Upper-Intermediate by Rob Nolasco. Oxford Supplementary Skills. Fourth Impression 1992. ISBN 0 194354065 (particularly good for writing memos, introduction to presentations, descriptive and argumentative writing).
- c) Reading
1. Reading. Advanced. Brian Tomlinson and Rod Ellis. Oxford Supplementary Skills. Third Impression 1991. ISBN 0 19 4534030.
  2. Reading and Study Skills by John Langan
  3. Study Skills by Riachard Yorky.

## **English III (Technical Writing and Presentation Skills)**

**Objectives:** Enhance language skills and develop critical thinking

### **Course Contents:**

#### **Presentation skills**

##### **Essay writing**

Descriptive, narrative, discursive, argumentative

##### **Academic writing**

How to write a proposal for research paper/term paper

How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency)

##### **Technical Report writing**

##### **Progress report writing**

*Note: Extensive reading is required for vocabulary building*

### **Recommended Books:**

Technical Writing and Presentation Skills

#### a) Essay Writing and Academic Writing

1. Writing. Advanced by Ron White. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 435407 3 (particularly suitable for discursive, descriptive, argumentative and report writing).
2. College Writing Skills by John Langan. Mc=Graw-Hill Higher Education. 2004.
3. Patterns of College Writing (4<sup>th</sup> edition) by Laurie G. Kirszner and Stephen R. Mandell. St. Martin's Press.

#### b) Presentation Skills

c) Reading

The Mercury Reader. A Custom Publication. Compiled by northern Illinois University. General Editors: Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharon. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students).

# Pakistan Studies (Compulsory)

## Introduction/Objectives:

- Develop vision of historical perspective, government, politics, contemporary Pakistan, ideological background of Pakistan.
- Study the process of governance, national development, issues arising in the modern age and posing challenges to Pakistan.

## Course Outline:

### 1. Historical Perspective

- a. Ideological rationale with special reference to Sir Syed Ahmed Khan, Allama Muhammad Iqbal and Quaid-i-Azam Muhammad Ali Jinnah.
- b. Factors leading to Muslim separatism
- c. People and Land
  - i. Indus Civilization
  - ii. Muslim advent
  - iii. Location and geo-physical features.

### 2. Government and Politics in Pakistan

Political and constitutional phases:

- a. 1947-58
- b. 1958-71
- c. 1971-77
- d. 1977-88
- e. 1988-99
- f. 1999 onward

### 3. Contemporary Pakistan

- a. Economic institutions and issues
- b. Society and social structure
- c. Ethnicity
- d. Foreign policy of Pakistan and challenges
- e. Futuristic outlook of Pakistan

## Recommended Books:

1. Burki, Shahid Javed. *State & Society in Pakistan*, The Macmillan Press Ltd 1980.
2. Akbar, S. Zaidi. *Issue in Pakistan's Economy*. Karachi: Oxford University Press, 2000.
3. S.M. Burke and Lawrence Ziring. *Pakistan's Foreign policy: An Historical analysis*. Karachi: Oxford University Press, 1993.
4. Mehmood, Safdar. *Pakistan Political Roots & Development*. Lahore, 1994.
5. Wilcox, Wayne. *The Emergence of Banglades.*, Washington: American Enterprise, Institute of Public Policy Research, 1972.

6. Mehmood, Safdar. *Pakistan Kayyun Toota*, Lahore: Idara-e-Saqafat-e-Islamia, Club Road, nd.
7. Amin, Tahir. *Ethno - National Movement in Pakistan*, Islamabad: Institute of Policy Studies, Islamabad.
8. Ziring, Lawrence. *Enigma of Political Development*. Kent England: WmDawson & sons Ltd, 1980.
9. Zahid, Ansar. *History & Culture of Sindh*. Karachi: Royal Book Company, 1980.
10. Afzal, M. Rafique. *Political Parties in Pakistan*, Vol. I, II & III. Islamabad: National Institute of Historical and cultural Research, 1998.
11. Sayeed, Khalid Bin. *The Political System of Pakistan*. Boston: Houghton Mifflin, 1967.
12. Aziz, K.K. *Party, Politics in Pakistan*, Islamabad: National Commission on Historical and Cultural Research, 1976.
13. Muhammad Waseem, *Pakistan under Martial Law*, Lahore: Vanguard, 1987.
14. Haq, Noor ul. *Making of Pakistan: The Military Perspective*. Islamabad: National Commission on Historical and Cultural Research, 1993.

# **ISLAMIC STUDIES**

## **(Compulsory)**

### **Objectives:**

This course is aimed at:

- 1 To provide Basic information about Islamic Studies
- 2 To enhance understanding of the students regarding Islamic Civilization
- 3 To improve Students skill to perform prayers and other worships
- 4 To enhance the skill of the students for understanding of issues related to faith and religious life.

### **Detail of Courses:**

#### **Introduction to Quran Studies**

- 1) Basic Concepts of Quran
- 2) History of Quran
- 3) Uloom-ul -Quran

#### **Study of Selected Text of Holly Quran**

- 1) Verses of Surah Al-Baqra Related to Faith(Verse No-284-286)
- 2) Verses of Surah Al-Hujrat Related to Adab Al-Nabi (Verse No-1-18)
- 3) Verses of Surah Al-Mumanoon Related to Characteristics of faithful (Verse No-1-11)
- 4) Verses of Surah al-Furqan Related to Social Ethics (Verse No.63-77)
- 5) Verses of Surah Al-Inam Related to Ihkam(Verse No-152-154)

#### **Study of Selected Text of Holly Quran**

- 1) Verses of Surah Al-Ihzab Related to Adab al-Nabi (Verse No.6,21,40,56,57,58.)
- 2) Verses of Surah Al-Hashar (18,19,20) Related to thinking, Day of Judgment
- 3) Verses of Surah Al-Saf Related to Tafakar,Tadabar (Verse No-1,14)

#### **Seerat of Holy Prophet (S.A.W) I**

- 1) Life of Muhammad Bin Abdullah ( Before Prophet Hood)
- 2) Life of Holy Prophet (S.A.W) in Makkah
- 3) Important Lessons Derived from the life of Holy Prophet in Makkah

#### **Seerat of Holy Prophet (S.A.W) II**

- 1) Life of Holy Prophet (S.A.W) in Madina
- 2) Important Events of Life Holy Prophet in Madina
- 3) Important Lessons Derived from the life of Holy Prophet in Madina

## **Introduction to Sunnah**

- 1) Basic Concepts of Hadith
- 2) History of Hadith
- 3) Kinds of Hadith
- 4) Uloom –ul-Hadith
- 5) Sunnah & Hadith
- 6) Legal Position of Sunnah

## **Selected Study from Text of Hadith**

### **Introduction to Islamic Law & Jurisprudence**

- 1) Basic Concepts of Islamic Law & Jurisprudence
- 2) History & Importance of Islamic Law & Jurisprudence
- 3) Sources of Islamic Law & Jurisprudence
- 4) Nature of Differences in Islamic Law
- 5) Islam and Sectarianism

### **Islamic Culture & Civilization**

- 1) Basic Concepts of Islamic Culture & Civilization
- 2) Historical Development of Islamic Culture & Civilization
- 3) Characteristics of Islamic Culture & Civilization
- 4) Islamic Culture & Civilization and Contemporary Issues

### **Islam & Science**

- 1) Basic Concepts of Islam & Science
- 2) Contributions of Muslims in the Development of Science
- 3) Quranic & Science

### **Islamic Economic System**

- 1) Basic Concepts of Islamic Economic System
- 2) Means of Distribution of wealth in Islamic Economics
- 3) Islamic Concept of Riba
- 4) Islamic Ways of Trade & Commerce

### **Political System of Islam**

- 1) Basic Concepts of Islamic Political System
- 2) Islamic Concept of Sovereignty
- 3) Basic Institutions of Govt. in Islam

### **Islamic History**

- 1) Period of Khlaft-E-Rashida
- 2) Period of Ummayyads
- 3) Period of Abbasids

### **Social System of Islam**

- 1) Basic Concepts Of Social System Of Islam
- 2) Elements Of Family
- 3) Ethical Values Of Islam

**Reference Books:**

- 1) Hameed ullah Muhammad, "Emergence of Islam" , IRI, Islamabad
- 2) Hameed ullah Muhammad, "Muslim Conduct of State"
- 3) Hameed ullah Muhammad, 'Introduction to Islam
- 4) Mulana Muhammad Yousaf Islahi,"
- 5) Hussain Hamid Hassan, "An Introduction to the Study of Islamic Law" leaf Publication Islamabad, Pakistan.
- 6) Ahmad Hasan, "Principles of Islamic Jurisprudence" Islamic Research Institute, International Islamic University, Islamabad (1993)
- 7) Mir Waliullah, "Muslim Jrisprudence and the Quranic Law of Crimes" Islamic Book Service (1982)
- 8) H.S. Bhatia, "Studies in Islamic Law, Religion and Society" Deep & Deep Publications New Delhi (1989)
- 9) Dr. Muhammad Zia-ul-Haq, "Introduction to Al Sharia Al Islamia" Allama Iqbal Open University, Islamabad (2001)

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## MATHEMATICS -I

**Specific Objectives of the Course:** To prepare the students, not majoring in mathematics, with the essential tools of algebra to apply the concepts and the techniques in their respective disciplines.

### **Course Outline:**

*Preliminaries:* Real-number system, complex numbers, introduction to sets, set operations, functions, types of functions. *Matrices:* Introduction to matrices, types, matrix inverse, determinants, system of linear equations, Cramer's rule.

*Quadratic Equations:* Solution of quadratic equations, qualitative analysis of roots of a quadratic equations, equations reducible to quadratic equations, cube roots of unity, relation between roots and coefficients of quadratic equations.

*Sequences and Series:* Arithmetic progression, geometric progression, harmonic progression.

*Binomial Theorem:* Introduction to mathematical induction, binomial theorem with rational and irrational indices.

*Trigonometry:* Fundamentals of trigonometry, trigonometric identities.

### **Recommended Books:**

Dolciani MP, Wooton W, Beckenback EF, Sharron S, *Algebra 2 and Trigonometry*, 1978, Houghton & Mifflin,

### **Boston (suggested text):**

Kaufmann JE, *College Algebra and Trigonometry*, 1987, PWS-Kent Company, Boston

Swokowski EW, *Fundamentals of Algebra and Trigonometry* (6<sup>th</sup> edition), 1986, PWS-Kent Company, Boston

**Note: General Courses from other Departments**

Details of courses may be developed by the concerned universities according to their Selection of Courses as recommended by their Board of Studies.

## RECOMMENDATION

The committee has reviewed and revised the curriculum of BS (4 years) Economics and also suggested its guidelines for Masters in Economics.

### **B.S in Economics:**

- Committee has recommended 10 foundation and 12 major courses along with a list of 30 elective courses.
- A semester-wise scheme is suggested based on the technical level required for different courses.
- Based on the recent advancements in the discipline of Economics, committee has suggested new courses to be included in foundation, major and elective courses, and has revised the contents of existing courses. In particular, the following areas need to receive more emphasis:
  - Economic History, which provides testing ground for theory. This is a different course from History of Economic Thought. The course attempts to provide an essential background to understanding the historical processes by which modern developed nations became developed, and how the underdeveloped “Third World” originated as part of the same historical process.
  - Behavioral and Experimental Economics.
  - Other heterodox approaches, including institutional economics.
  - Courses of Econometrics should be divided into theory and applied (lab work).
  - University has the option to offer Research paper/Project in lieu of any (one) other course.

### **Masters in Economics:**

- Committee recommended reconsidering the names of Masters Degree. M.Phil degree is recommended for a Masters with research dissertation, and MS/M.Sc/MA is recommended for a Masters without dissertation.
- M.Sc/MA is to be considered equal to BS with 16 years of education.
- MS is to be considered 17 years of education. MS with 6 more credit hours of course work must not be deemed equal to M.Phil.
- For any Ph.D program in economics, M.Phil is to be considered as a pre-requisite and in case of M.Phil leading to Ph.D, M.Phil requirements including research dissertation must be fulfilled.
- Someone with MS degree would directly be eligible for M.Phil research dissertation.
- Committee recommended a Masters Degree (not M.Sc or M.A) with minimum 24 credit hours of course work.

- For Masters Course work, committee recommended 4 (four) major courses: Advanced Macroeconomics, Advanced Microeconomics, Econometrics, and Recent Approaches to Development and 4 (four) elective courses (university can offer any four graduate level elective courses from any field of Economics).
- Recent approaches to Development; in particular, development is not merely accumulation of wealth. Various approaches of development including traditional; human development; sustainable development; food and water security; community development; political economy aspects and Islamic economics etc should be part of this course.
- Committee believed that Masters is an advanced level graduate degree and it refrained from fixing contents for any course. But it will provide the outlines that would serve as the minimum standard for any such course work.

### **General Recommendations:**

- Committee strongly recommended that HEC should make sure (facilitate) that all core readings (books/papers), software and computer labs are available.
- HEC must arrange teachers' training/workshops for faculty members.
- Committee recommended that all transcripts should follow same standard to gauge the relative standing of the student. It is recommended that a relative standing of student (in percentile)
- should be mentioned on transcript.