DEPARTMENT OF ECONOMICS

SCHEME OF STUDIES FOR
4 YEARS BS ECONOMICS

Main Features:

The program will be of eight (8) Semesters duration with 130 credit hours.

Semester-I:

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Subject</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>English Basic Skills</td>
<td>3</td>
</tr>
<tr>
<td>PAKS 103</td>
<td>Pakistan Studies</td>
<td>2</td>
</tr>
<tr>
<td>STAT 105</td>
<td>Statistics-I</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 107</td>
<td>Sociology</td>
<td>3</td>
</tr>
<tr>
<td>GENS 109</td>
<td>General Science</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111</td>
<td>Introduction to Economics</td>
<td>3</td>
</tr>
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</table>

Semester-II:

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Subject</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 102</td>
<td>English Composition &amp; Study Skills</td>
<td>3</td>
</tr>
<tr>
<td>ISLS 104</td>
<td>Islamic Studies</td>
<td>2</td>
</tr>
<tr>
<td>STAT 106</td>
<td>Statistics-II</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 108</td>
<td>Education</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 110</td>
<td>Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>ECON 112</td>
<td>Microeconomics-I</td>
<td>4</td>
</tr>
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</table>

Semester-III:

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Subject</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ENGL 201</td>
<td>English Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>COMP 203</td>
<td>Introduction to Computer</td>
<td>3</td>
</tr>
<tr>
<td>MATH 205</td>
<td>Mathematics-I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 207</td>
<td>Psychology</td>
<td>3</td>
</tr>
<tr>
<td>ECON 209</td>
<td>Macroeconomics-I</td>
<td>4</td>
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</table>

Semester-IV:
<table>
<thead>
<tr>
<th>Course No.</th>
<th>Subject</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 202</td>
<td>English Literature</td>
<td>3</td>
</tr>
<tr>
<td>HIST 204</td>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>MATH 206</td>
<td>Mathematics-II</td>
<td>3</td>
</tr>
<tr>
<td>SSCI 208</td>
<td>Sports Science</td>
<td>3</td>
</tr>
<tr>
<td>ECON 210</td>
<td>Economics of Pakistan</td>
<td>4</td>
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</table>

**Semester-V:**

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Subject</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ECON 301</td>
<td>Microeconomics-II</td>
<td>3</td>
</tr>
<tr>
<td>ECON 303</td>
<td>Macroeconomics-II</td>
<td>3</td>
</tr>
<tr>
<td>ECON 305</td>
<td>Mathematical Economics-I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 307</td>
<td>Islamic Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 309</td>
<td>Development Economics</td>
<td>3</td>
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</table>

**Semester-VI:**

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Subject</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ECON 302</td>
<td>International Economics-I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 304</td>
<td>Mathematical Economics-II</td>
<td>3</td>
</tr>
<tr>
<td>ECON 306</td>
<td>Innovation &amp; Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>ECON 308</td>
<td>Econometrics-I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 310</td>
<td>Managerial Economics</td>
<td>3</td>
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</tbody>
</table>

**Semester-VII:**

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Subject</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ECON 401</td>
<td>International Economics-II</td>
<td>3</td>
</tr>
<tr>
<td>ECON 403</td>
<td>Econometrics-II</td>
<td>3</td>
</tr>
<tr>
<td>ECON 405</td>
<td>Research Methodology</td>
<td>3</td>
</tr>
<tr>
<td>ECON 407</td>
<td>Monetary Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 409</td>
<td>Public Finance</td>
<td>3</td>
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</tbody>
</table>

**Semester-VIII:**

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Subject</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 402</td>
<td>Research Project / Internship</td>
<td>3</td>
</tr>
<tr>
<td>ECON 404</td>
<td>Microeconomic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECON 406</td>
<td>Macroeconomic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECON 408</td>
<td>Financial Economics</td>
<td>3</td>
</tr>
</tbody>
</table>
List of Elective Subjects:

- ECON 408 Transport Economics
- ECON 410 Human Resource Development
- ECON 412 Economics of Population
- ECON 414 Economics of Marketing
- ECON 416 Corporate Governance
- ECON 418 Cross Cultural Management
- ECON 420 Agricultural Economics
- ECON 424 Economics of Income Distribution and Poverty
- ECON 426 Labor Economics
- ECON 428 Operations Research
- ECON 430 Econometrics with Computer Applications
- ECON 432 Environmental Economics
- ECON 434 Industrial Economics
- ECON 436 General Equilibrium and Welfare Economics

DETAIL OF COURSES

FIRST SEMESTER:

Eng-101  ENGLISH BASIC SKILLS

Part-I:       GRAMMAR

- Time
- Tense (Past, Present, Future)
- Aspect (Continuous, Perfect, Perfect Continuous)
- Mood (Indicative, Imperative, Subjective)
- Voice (Active, Passive)
- Narration (Direct, Indirect)
- Clause (Structural----Main, Subordinate, Coordinating etc) (Functional----Declarative, Interrogative, Imperative etc)
- Sentence (Structural----Simple, Complex, Compound, Mixed, Elliptical, Unfinished etc) (Notional/Functional---Statement, Question, Command, Exclamation etc)
- Parts of Speech (Noun, Pronoun, Adjective, Verb, Adverb, Conjunctions Interjection, Preposition)

Part-II:
Punctuation (comma, Semi-colon, Colon, Quotation marks, Apostrophe, Short Forms, Hyphen, Bracket etc)

Part-III: **VOCABULARY**
- Basic Vocabulary of three thousand words
- High Frequency Idioms
- High Frequency Phrasal Verbs
- Words likely to be confused
- High Frequency Synonyms and Antonyms
- One word Substitution

Part-IV: **WORD-FORMATION**
- Inflection
- Derivation
- Conversion
- Compounding

Books Recommended:

**Pak.Std-103 PAKISTAN STUDIES**

1. Ideology of Pakistan: Definition and explanation; the Historical factor; the Political factor; the Religious factor; the Cultural factor; the Two-Nations Theory; Allama Iqbal and the Ideology of Pakistan; Quaid-e-Azam and the Ideology of Pakistan.

2. The Pakistan Movement: The Muslim Renaissance; Shaikh Ahmad Sirhindi; Shah Waliullah; Sir Syed Ahmad Khan; Darul-Ulum Deoband; Nadwatul-Ulema, Lukhnnow; Anjuman Himayat-e-Islam, Lahore; Sindh Madrasatul Islam, Karachi; Islamia College, Peshawar.

3. Landmarks of the Freedom Movement; Minto-Morley Reforms; Lucknow Pact; Montago - Chelmsford Reforms; the Khilafat Movement; Nehru Report; Jinnah’s Fourteen Points; Round-Table Conferences; the Government of India Act, 1935; 1937 Elections and the Congress Rule; Lahore Resolution, 1940; General Elections, 1946; Cabinet Mission Mission Plan; the 3rd June Plan and the Transfer of Power.

4. The Emergence of Pakistan; Early problems and main events.

5. The Struggle for Islamic System; Objectives Resolution; Islamic provisions in the Constitution of 1956, 1962 and 1973; the Promulgation of Islamic System in Pakistan.
6. The Land of Pakistan: Physical Features; People and Population; Climate and Seasons; Natural Resources.

7. The Foreign Policy of Pakistan; Definition and determinist of Foreign Policy; Important Phases of Pakistan’s Foreign Policy; Pakistan relations with the Islamic World.


Books Recommended:

Stat-105 STATISTICS-I

Introduction to Statistics
Descriptive and inferential statistics; population and sample, parameter and statistic; The four basic activities in statistics: Designing a plan for data collection, Exploring the data, Estimating an unknown quantity, Hypothesis testing; Type of measurement scales: Nominal, Ordinal, Interval and Ratio; Types of data: Univariate, Bivariate and Multivariate data, Primary and secondary data, Quantitative data and qualitative data, Time series, Cross-sectional and pooled data; Significant digits and rounding off numbers. Numerical examples and questions relating to all contents given in this topic.

Presentation of Data and Measures of Central Tendency
Introduction; Classification; Tabulating numerical data: The frequency distribution, the cumulative frequency distribution, the relative frequency distribution, the percentage frequency distribution; Graphic and diagrammatic representation: Bar chart, Pi chart, Histograms, Frequency curves and Histograms; Histograms by Hand: Stem-and-Leaf. Measure of central tendency; Introduction; Types of Averages: Mean: Arithmetic mean, Geometric mean, Harmonic mean, Trimmed and Winsorized means; Quintiles: Median,
Quartiles, Deciles, Percentiles; The mode; Box plot and detailed box plot; Empirical relation between Mean, Median and Mode; The cumulative distribution function.

**Measures of Dispersion, Skewness and Kurtosis**
Absolute and relative measures of dispersion; Different measures of dispersion: The Range, Quartile deviation, Mean deviation, Variance and standard deviation: Definition and interpretation of variance and standard deviation, Computation of Variance .and standard deviation, Step deviation method or coding method, Coefficient of variation, Standardized variable, Properties of standard deviation and variance; Skewness: Karl Pearson's coefficient of Skewness, Bowley's coefficient of Skewness; Kurtosis.

**Simple Linear Regression and Correlation Analysis**
Scatter diagram; Standard methods for obtaining regression line: (i) Inspection, (ii) .Semi average, (iii) Least squares principle; Assumptions underlying linear regression and its properties; Measures of variations: Standard error of the estimate, Coefficient of determination; Prediction in Regression Analysis; Interpolation verses extrapolation; Correlation analysis; Scatter diagram; The coefficient of correlation: Properties/characteristics of coefficient of correlation, Correlation and causation; The relationship among the correlation coefficient, the coefficient of determination and the standard error of estimate; Inference about the correlation coefficient; t-test for correlation coefficient; Rank correlation coefficient; Some Economic Applications.

**Index Numbers**
Index Numbers, Un-weighted index numbers; Simple aggregative index; Weighted indexes; Laspeyre's price index, Paasche's price index; MarshalEdgeworth price index; Fisher’s ideal index; Consumer Price Index (CPI), Producer Price Index (PPI), CPI versus GDP Deflator; Issues in constructing and using index numbers; Application of index numbers to business and economics.

**Time Series**
An overview of time series analysis; Component Factors of the classical multiplication time series model and their estimation: Secular trend; Cyclical variation, Seasonal variation, Irregular variation; Smoothing the annual time series and using it in forecasting: Moving averages, Weighted moving averages, Exponential smoothing; Using trend and seasonal component in forecasting; Time series and forecasting; Some Economic Applications.

**Recommended Books:**

**Additional Readings**

**Soc-107 SOCIOPY**

**Introduction to Sociology**
- Nature, scope and subject matter of Sociology
- Brief historical development of Sociology
- Introduction to Quranic Sociology
- Society and community
- Relationship with other social
- Social Interaction Processes

**Social groups:**
- Definition and functions
- Types of social groups

**Social institutions:**
- Definition
- Structure and function of social institutions
- Inter-relationships among various social institutions

**Culture and related concepts:**
- Definition and aspects of culture
- Elements of culture
- Organization of culture
- Other concepts, cultural relativism, sub cultures, ethnocentrism, cultural lag

**Socialization and personality:**
- Role and status
- Socialization
- Culture and personality

**Deviance and social control:**
- Definition and types of deviance
- Juvenile delinquency
- Formal and informal methods of social control

**Social stratification:**
- Approach to study social stratification
- Caste class and race as basics of social stratification

**Concept of social movement:**
- Theories of social movement
- Social and cultural change

**Social and cultural change:**
- Definition of social change
- Dynamics of social change
- Impact of globalization on society and culture
- Resistance to change

**Collective behavior:**
- Definition
- Characteristics
- Causes
- Types
- Social movements
- Mob and crowd behavior

**Books Recommended:**
**Gen.Sc-109 GENERAL SCIENCE**

**Physical Science:**
Big Bang and the expanding universe, Galaxies, Milky Way, Stars, black holes, Solar System, Earth.

**Earth Sciences:**
Atmosphere and life on earth, Plate tectonic, Drifting continents, Continental shelf, Earthquakes, Volcanoes, Hurricanes, Minerals.

**Chemistry:**

**Physics:**
The nature of matter, Atomic number and atomic mass, Symbol and isotope, Quantum theory, Nucleus of an atom, Radioactivity and half life, Hook’s law, elasticity, The kinetic theory of gases, Gravity, Thermodynamics, Electricity, Magnetism.

**Biological Sciences:**
Basis of life, Classification of animals and man, Cell and cell organelles, Nucleic acids, genes, Proteins, enzymes, Metabolism, hormones and endocrine glands, Balanced food, Vaccines, antibiotics, Photosynthesis/respiration, Cell divisions and cell cycle.

**Human physiology and anatomy:**
Bones and muscles, Digestive system, Nervous system, Respiratory system, the human heart.

**Recommended Books:**
3. A Text Book of General Science by H. Brownell (Latest Ed.).

**Econ-111 INTRODUCTION TO ECONOMICS**

**Introduction**

**Demand, Supply and Equilibrium**
elasticity of supply, Different Determinants of elasticity of demand and supply, importance of elasticity of demand and supply.

Theory of Consumer Behavior

Theory of Production Cost and Revenue
Factors of production and their rewards, Production Function, Laws of returns, Cost of production (Short run and Long run), Revenue Analysis under perfect and imperfect competition, Concept of profit

Market Structures
Perfect competition and Imperfect competition, assumptions and price /output determination under Perfect competition and Imperfect competition.

National Income

Macroeconomic Issues
Concept of inflation, unemployment, Balance of payment, Exchange rate and Business Cycles. Monetary and Fiscal policies and their role in the economy.

Recommended Books:
- John Sloman, Economics (latest edition)
- Miller, Microeconomic Theory (latest edition)

SEMESTER-II:

Eng-102   ENGLISH COMPOSITION & STUDY SKILLS

1. GENERAL STUDY SKILLS
   - Getting Organized
   - Knowing One’s Target
   - Dictionary Skills
   - Using the Library
   - Remembering and Learning
   - Techniques for Reading
   - Critical Thinking
   - Tackling a Book

2. SPECIFIC WRITING SKILLS
- Note-taking from Lectures
- Note-making from Books
- Brainstorming
- Outlining
- Summarizing
- Paragraph Writing
- Essay Writing
- Writing Assignments and Term Papers
- Dealing with Examinations

3. **SPECIFIC ORAL SKILLS**
   - Discussion in Tutorials
   - Effective Classroom Interaction

**Recommended Books:**
2. English Skills by John Langan (1981)
3. College Reading and Study Skills by Kathleen T. McWhorter (1983)

**Isl.St-104  ISLAMIC STUDIES**
1. The Prophet of Islam – His Biography
2. The Preservation of the Original Teachings of Islam
3. The Islamic Conception of Life
4. Faith and Belief
5. Devotional Life and Religious Practices of Islam
6. The Cultivation of Spiritual Life
7. The System of Morality
8. The Political System of Islam
9. The Judicial System of Islam
10. The Economic System of Islam
11. The Muslim Woman
12. Status of Non-Muslims in Islam
13. Muslim Contribution to the Sciences and Arts
14. General History of Islam
15. Daily Life of a Muslim
16. Difference of Schools (Sunni, Shiah etc.)
17. The Service of Worship; Why in Arabic alone?
18. Why a Purely Lunar Calendar?

**Recommended Books:**
1. S. Hamidullah
Stat-106    STATISTICS-II

Probability and Probability Distribution
A survey of probability concepts: Classical probability, Empirical concept, Subjective probability; some rules of probability: Rules of addition, Rules of multiplication; Conditional' Probability, Bayes Theorem; Counting rules: The multiplication formula, The permutation formula, The combination formula; Discrete probability distribution, Random variables, Discrete random variable Continuous random variable; The mean, variance and standard deviation of a probability distribution; Binomial probability distribution, and its computation, Cumulative probability distributions, Properties of Binomial probability distribution; The normal probability distributions: Properties of normal distribution, Applications of the standard normal distribution, Areas under the normal curve, Finding areas under the normal curve; the normal approximation to the binominal; Continuity correction factor.

Survey Sampling and Sampling Distributions
Sampling and Sample: Advantages of sampling, Representative samples, design and sample survey, Sampling frame; Probability and non-probability sampling; Sampling with and without replacement; Sampling .and non-sampling error, sampling bias; Sampling distribution of the mean; The central limit theorem; Sampling distribution of differences between means; Sampling distribution of sample proportion; Sampling distribution of differences between proportions; Sampling distribution of the variance.

Estimation Theory & Hypothesis Testing
Point estimates and confidence intervals; Criteria for good estimators; The t-distribution; Point estimators of mean and variance; Estimation by confidence interval: Confidence interval estimate of a population mean (Known & Unknown Variances), Confidence interval for differences of means, Confidence interval for population proportion, Confidence interval for differences between proportions; Types of hypotheses; Type I versus Type II errors; Tests of population means and variances; Two sample tests; The F distribution; Testing for the variances of two populations

Chi Square Application & Analysis of Variance
Introduction; .Goodness-of-fit test: Equal and unequal expected frequencies; Limitations of Chi square; Using the goodness-of-fit test to test for normality; Contingency Table Analysis. Introduction, The F-distribution; Comparing two population variances; ANOVA assumptions; ANOVA test; Inferences about pairs of treatment means; Two-way analysis of variance.

Recommended Books:


Additional Readings


Edu-108 EDUCATION

Foundation of Education

Curriculum Development and Implementation

Learning and the Process of Learning
Principles of Growth and Development; Types of Development: Cognitive; Moral; Emotional; Social; The process of Learning; Theories of Learning; Factors affecting Learning

Process of Teaching and Teaching Strategies
Process of Classroom Communication; Factors affecting Classroom Communication; Barriers to Classroom Communications; Use of Instructional Materials and Media; Information and Communication Technologies (ICTs)

Education in Pakistan

**Recommended Books:**


**Phil-110 PHILOSOPHY**

- Basic concepts of human life and its place in the universe
- Freewill, the relation of body and mind, immortality, skepticism, self-knowledge, causality and a priori knowledge
- Religions and secular ethics codes and theories
- Intuition, rationality and faith by classic and current philosophies (eg. Plato, descrites, hume, the business russxell and satre)

**Recommended Books:**

- Philosophy by N. Warburton (Routlegde 2004).

**Econ-112 MICROECONOMICS-I**

**Introduction**

Overview of microeconomics, Consumer, firm and market, laws of demand and supply, Market equilibrium, Shifts in demand and supply curves, and market equilibrium. Price
elasticity of demand, Income elasticity of demand, price elasticity of supply, Application of elasticity.

**Consumer Behavior**
Consumer’s Problem, Utility theory, Laws of diminishing marginal utility and equi-marginal utilities, Consumer Equilibrium and Consumer’s Demand Curve – Indifference Curve, Slope of Indifference Curve, Properties of Indifference Curves, Budget Constraint, Consumer’s Equilibrium.

**Theory of Production**
Production Functions, Short-run verses Long-run, Law of variable proportions, Laws of Returns, Iso-quant and Iso-cost, Least Cost Combination of factors of production, Concept of expansion path.

**Theory of Cost & Revenue**
Cost Function, Derivation of Cost Curve from production function, Cost Concepts, Short-run and Long-run cost function, Revenue Function, Relationship between Total Average & Marginal Revenue Curves under perfectly competitive and imperfect competitive markets.

**Market Structure**
Market structure, Price and output determination under different market structure (Perfect and imperfect competition, Monopoly, duopoly, Oligopoly, Monopolistic competition).

**Factor Pricing and Productivity**
Introduction of factor pricing, Marginal productivity theory.

**Books Recommended:**
6. Abdul Haleem Khawaja, Microeconomic Theory.

**SEMESTER-III:**

**Eng-201 ENGLISH COMMUNICATION SKILLS**

**SPEAKING**
- Introduction to Communication
- Importance of Communication
- Expressing Opinions
- Making Judgments
- Modifying People’s Feelings
- Expressing Personal Feelings
• Requesting and Giving Information
• Expressing Thought Processes
• Interacting Socially
• Preparing for an Interview
• Oral Presentations
• Presenting in Seminars/Conferences
• Problems in Oral Communication
• Business English (Business Opportunities-I)

WRITING
• Introduction to Writing Communication
• Letter Formatting
• Punctuation Styles
• Meetings
• Minutes of Meeting
• Agenda (Meeting)
• Meeting Notices
• Job Applications
• Notices/Advertisements
• Reading Comprehension and Précis
• Translation from Urdu to English and from English to Urdu
• Basic Vocabulary of English
• High Frequency Idioms
• Correct use of words
• Correct use of sentences

Recommended Books:
6. O’ Locker, Kitty Business and Administrative Writing

Int.Com-203 INTRODUCTION TO COMPUTER SYSTEM

Introduction
Introduction to Computers Concepts (Types of Computers, Generations of Computers, Classification of Computers etc.).

- The Basic Computer Architecture.
- Input and Output Devices
- Storage Media
- Introduction to Data Communication and Networking

**Operating System (Windows)**

What is an Operating System?
- Introduction

What is Windows?
- Starting Windows

Organizing your Files and Folders
- Making new Folders
- Moving and Copying Items between Folders
- Copying Files and Folders to and from Floppy Disks
- Copying, Moving and Deleting Block of Files and Folders

**Word Processing (Ms Word)**

Word Processing and its need
Documents Operations

- Starting a new Document
- Saving your work
- Spell Checking your work
- Previewing and Printing your work
- Opening and existing document
- Switching between Multiple Open Documents
- Formatting Test
  - Changing the Font
  - Changing the Font Size
  - Changing the Type Style
  - Highlighting Characters
  - Creating a Block and different Operations on a Block

- Setting Alignment
  - Centering, Left-Aligning, Right-Aligning, Justifying Test

- Page Formats
  - Adjusting Page Numbering

**Spread Sheet (Ms Excel)**

- Spread Sheet and its Applications
- Starting a New Worksheet
- Saving, Opening, Editing, and Printing your Worksheet
- Entering and Editing Data
- Entering Series
- Formulas and Functions
- Creating Formulas
- Mathematical, Exponentiation, and Percentage Operators
- Copying Formulas
- What-if Analysis
- Functions
- Charting your Data
- Inserting a Chart

**Recommended Books:**

**Math-205  MATHEMATICS-I**

**Number System**

**Sets and Functions**

**Matrices and Determinants**

**System of linear equations**
Homogeneous Linear Equations and Non-homogeneous Linear Equations Solution Methods of Non-homogeneous Linear Equations (i) Using Matrices, (ii) Using Elementary Row Operations (iii) Cramer Rule, Gauss’s Elimination Methods, Solutions of Quadratic Methods (i) By Factorization (ii) By Completing Square (iii) By Formula Method. Synthetic Division, Formation of Equation whose roots are given, System of two equations.

**Recommended Books:**
2. **Mathematical Methods** by S.M. Yusuf, Abdul Majeed & Muhammad Amin, Ilmi Kitab Khana, Kaber Street, Urdu Bazar, Lahore.
3. **Intgroductor Linear Algebra with application** (7th Ed) by Barnard Kolman and David R. Hill.
4. **Calcu**

**Psyc-207**  **PSYCHOLOGY**
- History of basic and applied fields of Psychology
- Scientific reasoning and Psychological methods
- Evolution of human motivation, development and social relationships
- Brain, Perception, Learning and Memory
- Normal and abnormal individual differences

**Recommended Books:**
- Personality Psychology by N.Brody and H. Ehrlichman (Englewood cliffs 1998)
- Personality by J.Burges (Belmont, CA, 2008)
- Psychology: An introduction by B. Lahey (Amazon Laker Ed.).
- Introduction to Psychology by E.R. Higlgard (Latest Ed.)
- Introduction to Psychology by R. Plotnik (Latest Ed.)

**Econ-209**  **MACROECONOMICS-I**

**Introduction:**
Definition of macroeconomics, Brief account of the development of macro-economics after the World War-II, Concept of business cycles; Boom and Depression, Concepts of Inflation and Unemployment, Macroeconomic variables and their mutual relationship, real and nominal variables.

**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, concept of depreciation and NNP, Personal Income and Disposable Income etc., Different methods of computation of national income; Product, Income and Expenditure approaches, Circular flow of income, Real versus Nominal Income, GNP deflator, Per capita income and standard of living, Study of Pakistan Economic Survey (latest).

**Classical Theory of Employment:**

**Components of Aggregate Demand:**
Consumption, Saving, Investment (to be explained with simple linear functions) Govt. expenditure. Different types of investment, Determinants of investment.

**Determination of National Income:**
The Keynesian model for a simple two-sector economy, injections into and leakages from the economy, inflationary and deflationary gaps, Equilibrium of aggregate demand and supply; the concept of multiplier and accelerator, concepts of full-employment and under employment.

**Money and Banking:**
Definition, forms, functions of money, Central Bank and its functions, the role of State Bank of Pakistan, Commercial banking, Demand for money; the Quantity Theory of money, Inflation measurement and impacts, causes of inflation and remedies, Monetary policy; brief introduction.

**Public Finance:**
Sources of public revenue and various forms of taxes, Major heads of public expenditure, Concept of budget deficits and sources of filling the gaps, deficit financing, study of the Federal budget of Pakistan (latest) and Provincial / Local government budgets (relevant areas), Fiscal policy; meaning and objectives.

**International Trade:**
Concept of imports and exports, Theory of absolute and comparative advantage, custom duties, Currency exchange rates, and Balance of Payments, causes of deficits in BOP of Pakistan and remedial measures, the problem of external debt.

**Books Recommended:**

**SEMESTER-IV:**

Eng-202 English Literature

**NOVEL:**
Tess by Thomas Hardy

**PROSE:**
*Short Stories:*
  - The Kite
    By Somerset Maugham

**PLAYS:**
  - The Storm
By John Drink Water

- Julius Caesar
- By Shakespeare

**POETRY:**

- John Milton
  - First 35 lines from the Paradise Lost
- John Keats
  - Ode on a Grecian Urn
- William Wordsworth
  - Lucy Poems
- P.B. Shelley
  - Ode to the West Wind
- Alfred Tennyson
- Break, Break, Break

**Hist-204  History**

Personal introduction and course outline (objectives); Introducing concepts, to be used in the course; Oral History Vs. Written Documents – constructing history; Carr’s idea on history and historical process; Analyzing society and Environment; Mechanical Vs. Organic Societies; Development of individuality and individualism; Past and present in history; Contemporary Vs. modern history; Structural changes: Why Europe?; What is modern and modernism; Dawn of the Modern Era: The West Torn Apart; Evolution and Revolution in European history: Economy and Culture; Renaissance and Enlightenment, Luther, Erasmus, and Reformation; Scientific and Intellectual Revolution in Europe; Ottomans and the Eastern divide; Copernicus, Galileo, Francis Bacon, Rene Descartes, Spinoza, Pascal and Newtonian Revolution; Synopsis of the Western political history; Constitutionalism and Absolutism: England and France; The idea of rebellion and revolution: The western heritage; Background to the Revolution: Constitutionalism Vs. Absolutism; Europe: Economy, society, thinking process and conflicts; Prelude to revolution: France under Louis XVI; Aristocratic revolt (1787 – 89); Origins and the chaotic conditions – 1789 93; The Estates: rivalries and revolts; Rise of Middle Classes in Europe; Dynamics of the Middle Class; Bonapartism vs. Mechiavelianism; Industrialization: Old and Modern (Indian vs. European); Seeds of Individualism: Mercantile Capital, decline of feudalism; British case: Why exceptionalism – Industrial Revolution – 1760 1840; Critical variables of Industrial Revolution: Technological changes and socio-economic growth with culture; Scientific approach to life and industrial work; The making of the Working Class: extraction of surplus from low wages; From feudalism to Capitalism: what was the process? ;Cost benefits of industrialization; From Russian Revolution to Industrialism in the USSR.

**Recommended Books:**

1. E.H. Carr:  
   - *What is History?*
2. G. Barraclough:  
   - *An Introduction to Contemporary History*
3. Carl G. Gustavson:  
   - *A Preface to History*
4. Jacob Burckhardt:  
   - *The Civilization of the Renaissance in Italy*

Math-206 Mathematics-II

**Partial Fraction & Sequences and Series**
Concept of Partial Fraction, Sequences and types of sequences, Arithmetic Progression and Arithmetic mean, Geometric Progression and Geometric mean, Harmonic Progression and Harmonic mean, Arithmetic sense, Geometric series and Harmonic series, Sign Notation.

**Derivatives and Concepts of Derivatives**

**Differential equations**
Differential equations of first order preliminary theory, Separable variable, Homogenous equations, Linear equations, Exact equations, Equations of Bernoulli, Ricatti, Clairaut’s equations.

**Higher order linear differential equations**
Homogeneous Linear Equations, Non-Homogenous linear equations, The method of undermined coefficients, The Cauchy Euler equation, Reduction of order, The method of variation of parameters, Exact linear equations

**Recommended Books:**
3. Intgroductor Linear Algebra with application (7th Ed) by Barnard Kolman and David R. Hill.

S.Sci.-208  Sports Science

Games and Sports
a. Human Organism Anatomy Physiology and effect of Exercise
   i) Muscular System, Circulatory System
   ii) Respiratory System, Nervous System
b. Rules and Techniques of the following games:
   1. Football
      - Play of Field & Dimensions, Numbers of Players & Players Equipment, Duration of the Match.
      - Start & Re-Start of play / kick off, Ball in and out of play.
      - Methods of scoring, off side.
   2. Volley Ball
      - Playing Area, Dimension of Court Participants Team Composition, Playing Equipment.
      - To Score a point, to win a game & match, Position of players in the court, Rotations, Playing action.
      - The Libero Player, The service, Attach hit, Blocking.
      - Time out & technical time outs misconduct & its sanctioned.
   3. Badminton
      - Dimension of Badminton Court, The shuttle & the racket.
      - Laws of service, fouls, order of service in double.
      - Single game and double game, scoring system.

Track and Field Events
a. Rules, Regulations and Techniques of Track and Field Events.
   i) 400 Meter Race
      - Rules of 400 metres race, Staggers, Starting Position, False Start.
      - Heats, Dopping, Finish Line, Tarso.
   ii) Broad Jump
   iii) Discuss Throw
      - Rules of Discuss Throw, Best Valid Performance, Grip, Rotations.
      - Landing Sector of Discuss, Fouls of Discuss Throw, Tie Break.
Nutrition
- Calories and Caloric requirement, Constituents of Food.
- Balanced Diet with special reference to the sources of food available in Pakistan, Effect of Malnutrition on Human Body.

Recommended Books:
Internet Access

Econ-210  Economics of Pakistan

A Perceptive of Economic Development and Growth:
Economic development and economic growth, Comprehensive definition of Economic development, Measurement of economic development, Common characteristics of developing countries.

Determinants and Obstacles of Economic Development:

Non-Human and Human Resources in Pakistan

Agriculture Sector:

Agriculture Credit, Marketing and Policy:
Role of Agriculture credit. Rural credit its types and sources. Rural credit its problems and solutions. Problems of agriculture marketing and solutions. Importance and objectives of agriculture price policy. Land tenure system in Pakistan.

Industrial Sector:

International Trade:
Transport and Communication Sectors in Pakistan:

Economic Planning:

Budgetary Policy in Pakistan:

Recommended Books:
- Vaqar Ahmad & Rashid Amad, The management of Pakistan’s Economy, Oxford University Press, Karachi.
- Pakistan Economic Surveys, Published by Government of Pakistan, (latest issues).
- Annual Report of State Bank of Pakistan and CBR year books. (latest issue)

SEMESTER-V:

Econ-301  Microeconomics-II

Introduction: Introduction to Microeconomic. Subject matter of Economics


Theory of production and Cost: Production function, graphical derivation of total, average and marginal product, law of diminishing returns, Production with two variable inputs, Production isoquants, Elasticity of substitution. Concepts of costs, Short-run cost theory. Economies and diseconomies of scale.

Theory of Firm and Market Organization: Pure, and perfectly competitive market: Imperfect Market: Monopoly, price discrimination, Multi-plant monopoly, Natural monopoly, monopoly and economic efficiency regulations of monopoly, monopolistic competition, equilibrium of firm and industry under monopolistic competition, Oligopoly theory, non-collusive oligopoly/classical solution to oligopoly, collusive oligopoly, market solution to oligopoly.
General Equilibrium: Pareto optimality, production efficiency equilibrium, bilateral equilibrium with production. General equilibrium, Disequilibria in exchange and/or production, multiple equilibrium.


Theory of Distribution: Demand for the supply of factors of production, Equilibrium in factor market under alternative market conditions. Theories of wages, rent, interest and profit.

Recommended Books:
7. Robert, S.Pindyck Microeconomics, 2nd Ed, Prentice Hall 1995

Econ-303 Macroeconomics-II

Basic Concepts: What is Macroeconomics? Subject matter of Macroeconomics
National Income Accounting: Theory & Measurement of National Income Accounts: Construction and problems, Real VS Nominal GNP

Aggregate Demand and Income Determination: Equilibrium Output, Consumption & Aggregate Demand, Saving Function, Investment & Aggregate Demand and related concepts.

Consumption Function: Absolute Income Hypothesis, Relative Income Hypothesis, Permanent Income Hypothesis, Life cycle Hypothesis, Reconciliation of Various Hypothesis, Other factors influencing. Consumption (Role of interest rate, prices, expectation Wealth and Distribution of Income.

Theories of Investment: Basic Concepts. Theories of Investment (profit theory, Accelerator Principle). Role of Interest Rate and Finance in Influencing Investment Demand.

Income, Prices & Employment: Classical theory: Aggregate Supply Curve, Aggregate Curve, Level of Output and employment Wages & Prices, Says law of Maker, Effect of changes in money supply of money, Demand for on output and prices etc.


Keyesian- Classical Debate: Effects of Monetary and Fiscal Policy, Real Balance Effect (Pigou and Wealth Effect), Govt. Budget Constraint, Crowding in vs. Crowding out

Inflation, Output and Unemployment: Theories of Inflation, Role of Expectations, Stabilization Policies

Growth Models and Business Cycle Theory: Concepts, Models of Business Cycle End Growth Models

**Recommended Books:**
1. Abel, Andrew, B & Ben S.Bernannke  Macroeconomics 2nd Ed, Addison
4. E. Shapiro  Macroeconomic Analysis 3rd Ed.
6. Dernburg & McGougall  Macroeconomics

**Econ-305  Mathematical Economics-I**

**Introduction:**

**Economic Models:**

**Linear Algebra:**

**Equilibrium Analysis:**

**Comparative Statistics And Derivatives:**

**Optimization:**

**Linear Programming:**
Linear Programming as a special case of optimization Graphic solutions. Simplex Method.

**Recommended Books:**
2. Yamani, T. *Mathematics for Economists*
5. J. Weber, *Mathematics for Economists*
7. Reston, M.H. *Elementary Matrices for Economics*
Econ-307 Islamic Economics

Financial Intermediation in the framework of Shariah:

Types of financial Instruments:
Bai-Maujjal, Mudaraba, Musharahs, Murabaha, Bai-salam, Ijara, Quad Hasana.
Social and Economic Aspects of Islamic Financial Instruments supplemented by the case studies of different Muslim countries.

Islamic Capital Market:
Appraisal of existing financial instruments and market operations from Islamic perspective. Supplemented by the case studies.

Islamic certificates & Resource Mobilization.

Islamic Banking Modes for house building financing.

Development Finance:
Financing Development in Islamic Strategies for financing Development, Domestic Financing of development, supplemented by the case studies of different countries.

Recommended Books:
3. Tariquallh Khan Practice & Performance of Mudaraba Companies, A Case Study of Pakistan IRTI, Islamic Development Bank, Jeddah, KSA, 1996


**Econ-309  Development Economics**

Meaning of Development; Characteristics and criteria of Development; historical theories of growth and development; neo classical theories; measures of economic inequality, poverty and their applications; theories of industrial and agricultural development.

Internal and External resource mobilization; agricultural pricing policy; human capital; employment problems; rural-urban migration and urban informal sector; trade and development; multi-national corporations; regional economic integration; new international economic orders; international debt problem.

**Recommended Books:**

1. Todaro, Michal P.  Economic Development in the Third World 1995

**SEMESTER-VI:**

**Econ-302  International Economics-I**

Introduction to International Economics: The scope and significance of international economics.


International Trade And Economic Growth: Trade and growth mutual effects of growth and trade in the context of small and large countries. Immiserizing growth.

Economic Integration: Types and reasons for economic integration. The theory of customs union.

**Recommended Books:**


**Econ-304 Mathematical Economics-II**

**Economic Dynamics and Integral Calculus.**
Dynamic and Integration; economic applications of integrals;

**First order Differential equations.**
Linear and Non-linear differential equations; the qualitative graphic approach; Solow growth model.

**Higher order Differential Model.**
Second order differential equation, a market model with market expectations; the interaction of inflation and unemployment; differential equation with variable term; higher order differential equations.

**First Order Difference Equation.**
Difference equation; Solutions; The dynamic stability of equilibrium; The Cobweb model; A market with inventory; Non-linear difference equations.

**Higher Order Difference Equations.**
Second order linear difference equations; Samuelson multiplier accelerator model; inflation and unemployment in discrete time; Generalization to variable term and higher order equations; Schur theorem.

**Simultaneous Differential Equations and Difference Equations.**
The genesis of dynamic systems; solving simultaneous Dynamic Equations; Dynamic input output models; the inflation unemployment model; the two variable phase diagram; Lineraization of non-linear differential equation system

**Linear Programming:**
Some example of linear programming; General formulation of linear programming; convex set and linear programming; simplex method; Duality; economic interpretation of dual.

**Non-Linear Programming.**
The nature of non-linear program, Kuhu-Tucker conditions; the constraint qualification.

**Games Theory:**
Constant and zero sum games; Saddle point solution; mixed strategy; the rectangular game as a linear program; Duality

**Theory of Demand.**
Utility functions; Ordinary Demand functions; indirect utility function; Roy identity; Expenditure function; Compensated demand function; Hotellings Theorem; Slutsky equation.

**Recommended Books:**
1. Brichenhall C. & P. Grout: *Mathematics for Modern Economics*
3. Dowling, E.T: *Mathematics For Economists*
4. Intrilligator, M.D: *Mathematical Optimization and Economic Theory*
5. Kooros, A.: *Elements of Mathematical Economics*
6. Varian, H.R: *Microeconomic Analysis*

**Econ-306 Innovation & Entrepreneurship**

**Chapter-1**  **The Entrepreneurial Perspective**
1.1 The natures and importance of entrepreneurs
   i) Definition of entrepreneur today
   ii) Entrepreneur as an innovator
1.2 The entrepreneurial decision process
   i) Desirability of new venture formation
   ii) Possibility of new venture formation
1.3 Types of start-ups
1.4 Role of entrepreneurship in economic development

**Chapter-2**  **The Entrepreneurial and Intrapreneurial Mind**
2.1 What is intrapreneurship and entrepreneurship
2.2 The entrepreneurial process
   i) Identify and evaluate the opportunity
   ii) Develop a business plan
   iii) Determine the resources required
2.3 Managerial versus entrepreneurial decision making
2.4 Corporate versus intrapreneurial culture

Chapter 3 The Individual Entrepreneur
3.1 Entrepreneur background and characteristics
   i) Childhood family environment
   ii) Education
   iii) Work history
3.2 Comparison of male and female entrepreneur
3.3 Entrepreneur versus innovators

Chapter 4 International Entrepreneurship Opportunities
4.1 The nature of international entrepreneurship
4.2 Importance of international business to the firm
4.3 International versus domestic entrepreneurship
   i) Political legal environment
   ii) Cultural environment
   iii) Technological environment
   iv) Strategic issues
4.4 Barriers to international trade
4.5 Entrepreneur’s strategy and trade barriers

Chapter 5 Creating and Starting the Venture
5.1 Creativity and business idea
   i) Sources of new ideas
   ii) Methods of generating ideas
5.2 Opportunity recognition
5.3 Product planning and development process
5.4 E-Commerce and business start-up

Chapter 6 The Business Plan: Creating and Starting the Venture
6.1 What is business plan
   i) Scope and value of the business plan
   ii) Who should write the plan
6.2 How do potential lenders and investors evaluate the plan
6.3 Information needs
   i) Market information
   ii) Operation information needs
   iii) Financial information needs
6.4 Writing the business plan
   i) Industry and environmental analysis
   ii) Description of venture
iii) Production plan
iv) Operations plan
v) Marketing plan
vi) Financial plan
6.4 Using and implementing the business plan

Chapter-7 The Marketing Plan
7.1 Industry analysis
   - Competitor analysis
7.2 Marketing research for the new venture
7.3 Understanding the marketing plan
7.4 Marketing mix
7.5 Steps in preparing the marketing plan
7.6 Contingency plan

Chapter-8 The Organizational Plan
8.1 Developing the management team
8.2 Legal forms of business
   i) Ownership
   ii) Costs of starting a business
   iii) Capital requirements
   iv) Management control
8.3 Designing the organization
8.4 Building the management team

Chapter-9 The Financial Plan
9.1 Operating and capital budget
9.2 Proforma income statement
9.3 Proforma cash flows
9.4 Proforma balance sheet
9.5 Breakeven analysis

Chapter-10 Going Public
10.1 Advantages and disadvantages of going public
10.2 The alternatives to going public
10.3 Timing of going public
10.4 After going public

Chapter-11 Cases
a) Developing women entrepreneurship
b) Selling in a non-traditional market
c) Dual pane company
d) The Winslow clock company

Recommended Books
(i) Innovation and Entrepreneurship by Robert D. Hisrich and P. Peters
Econ-308  **Econometrics-I**

**Introduction to Econometrics**
Definition and scope of econometrics; Methodology of econometrics; Types of Econometrics; The Role of the Computer

**Two Variables Regression Analysis**
Some basic ideas of Regression analysis; OLS estimation; Interpretation and economic meanings of the Results; Goodness of fit; Properties of the OLS estimator; Scaling and Units of Measurement; Functional Forms of Regression Models; Interval estimation; Hypothesis Testing; Prediction; Some extensions of the simple linear regression model.

**Multiple linear regression analysis**
Some basic ideas; OLS estimation; Interpretation and economic meanings of the Results; Multiple Coefficient of Determination; Hypotheses testing; \( R^2 \) and F; Testing for parameter stability; Prediction.

**Dummy Variables And Qualitative Response Regression Models**
Illustration of the use of a Dummy Variable; Extension to more than two categories and to multiple sets of dummy variables: ANOVA models, ANCOVA models; Dummy variable alternative to Chow test; Interaction Effects; Seasonal Analysis; Piecewise linear regression. Introduction of Qualitative Response Regression Models; The linear probability model; The Logit model; The Probit model; The Tobit model

**Recommended Books:**

Econ-310  **Managerial Economics**

Introduction to Managerial Economics: Introduction, Definition and Scope of Managerial Economics, Certainty vs. Uncertainty, Positive vs. Normative Economics, Use of Models in
Managerial Economics, Present Value Analysis and Firms Time Horizon, Objectives of the Firm


Demand Theory, Concepts and Estimation: Introduction, The Utility approach, The Indifference Curve Approach, Demand Concepts for Decision Making, The Demand Function and Demand Curve, Price elasticity of Demand, Income Elasticity of Demand, Cross Elasticities and other Elasticities, Demand Estimation and Forecasting, Interviews, Surveys and Experiments, Regression Analysis of Consumer Demand, Demand Forecasting


Managerial Theories of the Firm: Baumol’s Theory of Sales Revenue Maximization, Marris’s Model of Managerial Enterprise, Williamson’s Model of Managerial Discretion

The Behavioral Model by Cyert and March

Linear Programming. Basic Concepts of Linear Programming, Methods of Solving Linear Programming Problems using Simplex Method and Shadow Prices of Constraints

Capital Budgeting. Pre-requisites of Capital Budgeting, Investment Criteria and Decisions

Recommended Books:

2. Keat and Young Managerial Economics Maxwell 1998
3. Petersen and Lewis Managerial Economics, Maxwell 1996
5. Koutsoyiannis, A. Modern Microeconomics
SEMESTER-VII:

Econ-401  International Economics-II


Income Adjustment Mechanism: Income determination in an open economy. The foreign trade multiplier. Foreign repercussions, national income and the balance of payments, policies for internal and external balance, Swan’s and Mundell models and policy assignments.

Recommended Books:

Econ-403  Econometrics-II

Multicollinearity
Concept of Multicollinearity; Consequences of Multicollinearity problem; Methods for detection of Multicollinearity problem; Remedial measures for Multicollinearity problem; Estimations and Interpretations.

Heteroscedasticity
Heteroscedasticity and its Implications; OLS estimation in the presence of heteroscedasticity; Generalized least squares (GLS); Detection of heteroscedasticity; Remedial measures.

Autocorrelation
The nature of autocorrelation; OLS estimation in the presence of autocorrelation; Detection of autocorrelation; Remedial measures; Misspecification vs pure autocorrelation; Newey-West procedure; Forecasting with auto-correlated disturbances.

**Model Specification Errors**
Introduction to Model specification; Types of Specification errors; Consequences and Tests of Specification Errors; Errors of Measurement; Approaches in Choosing an Appropriate Model.

**Dynamic Econometric Models**

**Simultaneous-Equation Models**
Simultaneous Equation Models; Various Types of simultaneous equation Models; The identification problem; Estimation of Simultaneous Equation Models

**Recommended Books:**
8. Madnani, G.M.K. *Introduction to Econometrics, Principles and application (latest edition)*

**Econ-405 Research Methodology**
Introduction; Research, research in business, scientific thinking. Research Designs; the research process, research design, what is research design, classification of design, exploratory research, casual inference. Sample Design; the nature of sampling, probability sampling, complex probability sampling, non-probability sampling. Measurement and Scaling; measurement, measurement scales, the characteristics of sound measurement, the development of measurement tools, scaling, the nature of scaling, response methods, scale construction. Data Collection Methods, Survey Instruments and Field Procedures; survey instrument designs, the survey situations, the instrument development process, questionnaire development, field procedures, personal interviewing, telephone interviewing, interviewing by mail, observations. Data collection, Observation, experimentation and Simulations; experimentation and simulation, experimental Research design, simulation, observation, observation designs. Use of Secondary Data; the nature of secondary data sources, the use of
secondary data, types of secondary data sources, statistical sources, data research procedures, evaluating secondary data. Data presentation and Analysis: elements of analysis, data preparation, special data problem, tabulation, data presentation, and data analysis. Report writing; the research proposal, the research report, research report format, writing the report

**Recommended Books:**
1. Business research methods by Zikmund
2. Business research methods by Uma Sckaran

**Econ-407 Monetary Economics**

**Money:** its functions and definitions, kinds of money, evolution of monetary system

**Demand for money:** meaning of holding money, demand for money, and recent development theories in demand for money, quantity theory of money.

**Supply Of Money:** Definition of supply of money (M1, M2, M3), exogenous and endogenous determinants of money supply.

**Banking:** Commercial bank: structure and functions of commercial banks, money / credit creation. Functions of commercial banks, theories of determinants of interest rates, term structure of interest rates. Central Bank: structure and functions of central bank, control of money supply, tools to control of money supply. Islamic Banking: Riba free banking

**Monetary Policy:** Monetary policy and independence of monetary authority: targets, goals of monetary policy, management determinant, and role of monetary policy, short and; long run aspects Determination of interest rates. Keynesian and Monetarist debate and out put determination monetary approach to Balance of Payment.

**Recommended Books:**
1. Luckett G. Dudley *Money and Banking* 3rd Ed, McGraw Hill 1984
3. Lawrence Harris Monetary Theory McGraw Hill, 1985

**Econ-409 Public Finance**

**Introduction**
Public Finance defined, importance of the study of public finance, need for the public sector, main functions of the public sector
**The Theory of Public Goods**
Public & Private goods, pure public goods, semi public goods, merit goods, free rider problem, externalities.

**Revenue**
Tax and non tax revenue, categories of taxes, income and cooperate taxes, wealth tax, sales tax, excise and custom duties, surcharges, Direct and in direct taxes, Tax Criteria: Efficiency Criteria, the benefit principle, Ability to pay, limitation of tax effort: Laffer Curve approach: Tax Structure of Pakistan. Tax Reforms in Pakistan and Problem of tax evasion.

**Tax Incidence**
Impact and incidence of taxes, partial equilibrium in view of product tax, partial equilibrium view of factor tax, general equilibrium in view of tax incidence.

**Public Expenditure**
Components of public expenditure in Pakistan, causes of growth of public expenditure in Pakistan.

**Budget**
Preparation of budget cycle in Pakistan, Development and non-development budget, budget procedures, balanced budgets, deficit and surplus budget, zero based budget, program budget, planning programming budgeting system.

**Public Debt**
Structure of public debt in Pakistan, who bears tax burden, to tax or to borrow

**Fiscal Policy**
Fiscal policy defined, analytical foundations of fiscal policy, static and dynamic theory of fiscal policy, techniques of measuring influence, the role of fiscal policy in developing countries with emphasis on resource allocation, income redistribution, capital formation and stabilization, analysis of means of financing economic development including capital imports, domestic savings, inflation and taxation, fiscal policy in Pakistan.

**Recommended Books:**
1. Musgrave & Musgrave *Public Finance in theory and Practice* 5th d
2. Otto Eckstien *Public Finance* 3rd Ed 1973
4. Due John F *Government Finance*
5. Chellieah R.J *Fiscal policy in less developed countries*
SEMESTER-VIII:

Econ-402  Research Project / Internship

Econ-404  Microeconomic Analysis

Axiomatic approach to consumer behavior, duality relations and the related properties; the theory of revealed preference; choice under uncertainty; inter temporal choice; empirical specification of demand system; the production and cost theory; firms production decisions under alternative market structures; empirical specifications of production, cost and profit functions.

Recommended Books:

Econ-406  Macroeconomic Analysis

Macro economic models under alternative schools of thought i.e. classical, Keynesians, monetarists, supply side economists, etc. the role of expectations in macro models; analysis of consumption, investment and money demand, theory and empirical evidence; theories of inflation and unemployment; government budget constraint and Ricardian equivalence controversy; open economy macroeconomics one sector growth models.

Recommended Books:
2. Laurence H.Meyer Macroeconomics: A Model Building
3. E. Shapiro Macroeconomic Analysis (3rd Ed.)
4. Dornbusch & Fisher Macroeconomics
5. Dernburg & McGougall Macroeconomics
**Econ-408  Financial Economics**

Introduction to Financial Economics; Scope and Subject matter of the financial economics; Real Assets versus Financial Assets; The Role of Financial Assets in the Economy; Users of the Financial System; Types of Financial Instruments; Characteristics of Financial Instruments; Financial Innovation; Theories of Term Structure – The Expectations Hypothesis, Liquidity Preference, Market Segmentation Theory, Preferred Habitat Theory, Interpreting the term structure, Measuring the term structure; Defining options and futures; Understand rights and obligations of the parties involved in various types of options; Familiarity with the basic taxonomy used in options analysis; Types of Markets; Types of Traders; The Trading Process; Defining Financial Intermediation; Different Types of Financial Intermediaries; The Role of Banks in Financial Intermediation; Moral Hazard; Adverse Selection ;Solutions ; Defining Capital Structure; Modigliani and Miller Propositions I and II; How taxes affect financing choices; Dividend policy issues; The Regulatory Role of the Government; How the Legal Environment Affects Access to External Finance; How the Legal Environment Affects Financial Decisions.

**Recommended Books:**

1. Charles P. Jones, Investments latest Edition

**Econ-409  Elective-I**

**Econ-410  Elective-II**

**ELECTIVE SUBJECTS:**

**Econ- 408  Transport Economics**

Recommended Books:

**Econ- 410 Human Resource Development**

**Concepts and Measurement:** its relevance for economic development, basic concept and terminologies.

**Strategies of Human Resource Development: education and investment in human capital:** Different approaches relating to the contribution of education to economic growth, returns to Growth, international comparison, Production Function, Social and Private Demand.

**Issues in Formal and Informal Education:** Efficient allocation of resources, maximization of the objective, labor market structure, demand and supply of human skills

**International Migration of Human Skills:** problems; manpower requirement approach, human resource led development, industrialization and employment,

**Health and Nutrition Policies:** Issues, Problems, comparison with the other developing Countries

**Recommended Books:**

<table>
<thead>
<tr>
<th></th>
<th>Author/Institution</th>
<th>Title/Description</th>
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Econ- 412  **Economics of Population**

1. **The Nature of Population Study**
   - Populations
   - Samples
   - Formal Demography and Population Analysis

2. **Analytics**
   - Demographic Research in Action
   - Variables
   - Graphical Analysis
   - Models
   - Frequency Distributions
   - Graphical Presentations of Frequency Distributions
   - Averages
   - Absolute and Relative Numbers

3. **The Sources of Information for Demographers**
   - Population Registers
   - Census
   - Sample Surveys
   - Vital Statistics
   - International Migration Statistics

4. **The Growth of Population**
   - A Sketch of World Population History
   - The Present and the Future Growth of World Population
   - The Growth of Population in the United States
   - The Growth of Population Outside the United States: England, Canada and Turkey

5. **The Distribution of Population**
   - A Note on Density
   - The Uneven Distribution of World Population
   - World Urbanization
   - Urbanization Explained
   - American Urbanization
   - Urbanization in Less Developed Countries

6. **Mortality**
   - Basic Measures of Mortality
   - Differential Mortality
- Major Causes of Death
- Trends in Mortality

7. **Fertility**
   - A Note on Nuptiality
   - Basic Measures of Fertility
   - Differential Fertility
   - Trends in Fertility
   - The Theory of the Demographic Transition
   - Appendix: Fertility Inhibition, or Birth Control

8. **Migration**
   - Basic Concepts and Measures of Migration
   - Sources of Data on Migration
   - Functions of Migration
   - Significant Types of Migration
   - Differentials and Selectivity of Migration
   - Motivations for Migrating
   - Consequences of Migration

9. **International Migration**
   - A Short History of American Immigration
   - The Determinants of American Immigration
   - The Consequences of American Immigration
   - American Immigration Policy: Past and Present

10. **Internal Migration**
    - A Short History of Internal Migration
    - Internal Migration in Developing Nations

11. **The Composition of Population**
    - Population Processes and Population Composition
    - Sex Composition
    - Age Composition
    - Comparisons of Age and Sex Composition
    - Factors Affecting the Sex and Age Composition
    - Demographic Consequences of Age and Sex Structure
    - Economic Age Categories
    - Racial Composition

12. **The Socioeconomic Effects of Population Change**
    - The Economic Impact of a Rising Dependency Ratio
    - Aging: A Problem for Developed Nations
    - Some Implications of Zero Population Growth

13. **Population Policy**
Definitions, Goals, and Ethical Considerations
- Population Policy in the Less Developed Countries
- Population Policy in the Developed Countries
- The Policy Debate on Immigration

Recommended Books:

Econ-416 Corporate Governance
The corporate Governance: An Overview and Introduction; The Theory and practice of Corporate Governance; Corporate Governance Models; Rights and Privileges of Shareholders; Conflict between managers and shareholders; Corporate Governance and Other Stakeholders; Board of Directors; Role, Duties and Responsibilities of Auditors; Business Ethics; Corporate Social Responsibility; Environmental Concerns; The role of Media; Capital Market Regulator in Pakistan; Issues in Corporate Governance.

Recommended Books
2. A. C. Fernando. Corporate Governance (Principles, Policies and Practices)

Econ-420 Agricultural Economics
Agricultural Revolution; Importance of Agriculture; Food Safety; Agriculture vs. Industrial development Debate- Current Stale of Agricultural Development; Brief Overview of Sources of Growth; Introduction to issues in Agriculture; Traditional Agriculture and Productivity; A framework of Analysis; Product Contribution; Market Contribution; Factor Contribution; Foreign Exchange Contribution. Agriculture vs. Industry Debate of Development; Economic Rent; The Theory of Rent; Rent and Quasi-Rent; The Ricardian 'Corn Rent; The Rental Market; Agricultural Surplus; Characteristics of Landownership in Underdeveloped Agriculture and Pakistan; The Theory of Share Tenancy; Some Extensions of the Share Tenancy Model; Tenure Status in Pakistan; Agricultural productivity in Pakistan and use of inputs; The Lewis Model; The Fei-Ranis (FR) Model; The Jorgenson Model; Kelley, Williamson, Cheetham Model: Criticism; Dual Economy Models; Agricultural Adequacy; Mellor's Model.

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The Cobweb Model: An Illustration; Price-Supply Response in. Backward Agriculture; A simple Supply Response Model; Supply Response in the Underdeveloped Agricultural labour Market; Specifically in Pakistan; The Concept of Marketed Surplus: Some Methods of Estimation; Some Criticisms of Krishna's Method and the Alternative Approach of Behrman Perennial Crops and Marketed Surplus in Pakistan; Green Revolution in Pakistan and Responses; Present Status of Green Revolution in Pakistan: Empirical Analysis; Inequitable Landownership and Land Reform; Capital and Finance in Underdeveloped Agriculture; Marketing Imperfections and Marketing Policies in Pakistan; Measures to Improve Marketing System in Pakistan; Support Price Policy in Pakistan; Determinants of support prices; Impacts of support prices; Main Features of Trade in Agricultural Goods; Trade Policies in Developed Countries and their Impacts.

**Recommended Books:**


**Econ- 424 Economics of Income Distribution and Poverty**

Size and Functional Distribution of Income; Place of Distribution, Poverty and Inequality in the development models; Measures of Income Inequality and Poverty; Causes of Income Inequality and Poverty; Remedial Measures; Growth with Redistribution; Basic Need Approach; Policy options; Poverty and Income Distribution in Pakistan.

**Recommended Books:**

10. International Labor Org., Poverty in Rural Asia (eds)

**Econ- 426 Labor Economics**

Importance of Labor Economics; Introduction: Industrialization and Emergence of Labor. Analyze Labor Markets and Conditions; Labor Markets Analysis: Demand for Labor; Labor Market Indicators; Demand for Labor; Decision Making and Labor Hiring; Labor Migration: Reasons and Impacts. Determinants of Labor Supply; Concepts of Human Capital; Human Capital productivity and Wages; The Determinants of Labor Force Participation; Supply of Labor and Household Productions; Labor- Skill, Training and Productivity; The Dual Labor Market Theory; Labor Unions and Wages; Labor Unions and Underemployment; Underemployment and Social Protection; Labor Market Discrimination; Discrimination in Labor Market: Gender Race and Ethnicity; Efficiency Wage Theories and Coordination Failure; Labor Market Information System; Labor Market Information System and Efficiency; Labor Statistics and Labor Policy; Human Welfare and Labor Policy; Minimum Wages; Rationale and Impacts; Theories of Labor Movements; Trade Unions in Pakistan; Labor Legislation in Pakistan; Impacts of Labor Union; Labor Policies in Pakistan: Critical Evaluation; Child Labor: Definition and extent of child labor; Child labor and moral aspects; Child labor an international issue: Extent of Child labor in developing countries; Child labor in Pakistan; Policies to combat child labor; Child labor and international trade issue.

**Recommended Books:**

**Econ- 432  Environmental Economics**

Introduction to Environment Economics; The Economy and Environment; Analytical Tools. Benefits and costs; supply and demand; willingness to pay, benefits; costs; technology the equimarginal principle; marginal cost and supply; Economic efficiency and markets; Economic efficiency; equity; social efficiency; external costs and benefits; The Economics of Environmental Quality; Pollution Control; General model; the equi marginal principal applied to emission reduction; long run sustainability; Environmental Analysis: Impact analysis, cost effective analysis, benefit cost analysis, risk analysis; Benefit cost analysis; risk analysis; measuring damages directly; Environmental Policy Analysis; Criteria for evaluating environmental policies; federal policies; centralized policies; Command and control strategies; incentive based strategies; emission taxes and subsidies; transferable discharge permits; International Environmental Issues; Environmental policies in industrialized countries; economic development and the environment; the global environment; international environmental agreements.

**Recommended Books:**


**Econ- 434  Industrial Economics**

The scope and method of industrial economics; the welfare economics of competition and monopoly; the determinants of market structure; economic theories of oligopoly pricing and conditions facilitating as well as limiting oligopolistic co-ordination; the dynamics of monopoly and oligopoly pricing; price discrimination market structure; administrated prices and macroeconomic stability; product differentiation, market structure and competition; factors influencing the industrial location choice; policy approaches to monopoly and oligopoly.

**Recommended Books:**

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