

Revised Scheme of Studies & Course Outlines for BS Economics (8 semesters of 130 Credit Hours)

*(For Morning & Afternoon Programs under Semester
System, Session 2013-2017 & onwards)*

First Semester

ECON-101	Functional English	3-Credit Hours (100 marks)
ECON-103	Islamic Studies/ Ethics (For Non Muslims)	2-Credit Hours (100 marks)
ECON-105	Principles of Microeconomics	3-Credit Hours (100 marks)
ECON-107	Calculus	3-Credit Hours (100 marks)
ECON-109	General Science	3-Credit Hours (100 marks)
ECON-111	Introduction to Psychology	3-Credit Hours (100 marks)

(All Compulsory)

Second Semester

ECON-102	English Comprehension and Composition	3-Credit Hours (100 marks)
ECON-104	Pakistan Studies	2-Credit Hours (100 marks)
ECON-106	Principles of Macroeconomics	3-Credit Hours (100 marks)
ECON-108	Mathematical Methods	3-Credit Hours (100 marks)
ECON-110	International Relations & Current Affairs	3-Credit Hours (100 marks)
ECON-112	Principles of Sociology	3-Credit Hours (100 marks)

(All Compulsory)

Third Semester

ECON-201	English Communication & Writing Skills	3-Credit Hours (100 marks)
ECON-203	Intermediate Microeconomics	3-Credit Hours (100 marks)
ECON-205	Introduction to Statistics	3-Credit Hours (100 marks)
ECON-207	Fundamentals of Geography	3-Credit Hours (100 marks)
ECON-209	Introduction to Business Studies	3-Credit Hours (100 marks)
ECON-211	Foreign Language: Arabic	3-Credit Hours (100 marks)

(All Compulsory)



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Fourth Semester

ECON-202	English Literature	3-Credit Hours (100 marks)
ECON-204	Intermediate Macroeconomics	3-Credit Hours (100 marks)
ECON-206	Introduction to Probability Distributions	3-Credit Hours (100 marks)
ECON-208	Computer Applications	3-Credit Hours (100 marks)
ECON-210	Principles of Entrepreneurship	3-Credit Hours (100 marks)
ECON-212	Economics of Pakistan	3-Credit Hours (100 marks)

(All Compulsory)

Fifth Semester

ECON-301	Microeconomic Theory	3-Credit Hours (100 marks)
ECON-303	Agricultural Economics	3-Credit Hours (100 marks)
ECON-305	Mathematical Economics	3-Credit Hours (100 marks)
ECON-307	Statistical Inference	3-Credit Hours (100 marks)
ECON-309	Development Economics	3-Credit Hours (100 marks)

(All Compulsory)

Sixth Semester

ECON-302	Macroeconomic Theory	3-Credit Hours (100 marks)
ECON-304	Economics of Money and Banking	3-Credit Hours (100 marks)
ECON-306	Optimization and Dynamic Analysis	3-Credit Hours (100 marks)
ECON-308	Fundamentals of Econometrics	3-Credit Hours (100 marks)
ECON-310	Issues in Pakistan Economy	3-Credit Hours (100 marks)

(All Compulsory)

Seventh Semester

ECON-401	Monetary Theory and Policy	3-Credit Hours (100 marks)
ECON-403	Econometric Methods	3-Credit Hours (100 marks)
ECON-405	Public Finance	3-Credit Hours (100 marks)
ECON-407	International Trade: Theory & Policy	3-Credit Hours (100 marks)
ECON-409	Islamic Economics	3-Credit Hours (100 marks)

(All Compulsory)



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Eighth Semester

(Compulsory Courses)

ECON-402	Financial Economics	3-Credit Hours (100 marks)
ECON-404	Islamic Finance	3-Credit Hours (100 marks)
ECON-406	International Finance	3-Credit Hours (100 marks)
ECON-408	Research Methods in Economics	3-Credit Hours (100 marks)
ECON----	Elective Course	3-Credit Hours (100 marks)

- **Elective Course will be selected from the list of following optional papers**

Optional Courses

ECON-412	Thesis/ Research Project	3-Credit Hours (100 marks)
ECON-414	Applied Economics	3-Credit Hours (100 marks)
ECON-416	Corporate Governance	3-Credit Hours (100 marks)
ECON-418	Globalization and Economic Integration	3-Credit Hours (100 marks)
ECON-420	Transport Economics	3-Credit Hours (100 marks)
ECON-422	Energy Economics	3-Credit Hours (100 marks)
ECON-424	Environmental Economics	3-Credit Hours (100 marks)
ECON-426	History of Economic Thought	3-Credit Hours (100 marks)
ECON-428	Human Resource Management	3-Credit Hours (100 marks)
ECON-430	Industrial Economics	3-Credit Hours (100 marks)
ECON-432	Labor Economics	3-Credit Hours (100 marks)
ECON-434	Managerial Economics	3-Credit Hours (100 marks)
ECON-436	Population Economics	3-Credit Hours (100 marks)
ECON-438	Project Planning and Appraisal	3-Credit Hours (100 marks)



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Detailed Course Outlines

First Semester

ECON-101 FUNCTIONAL ENGLISH

Basics of Grammar; Parts of speech and use of articles; Types of Sentences: Interrogative, Exclamatory, Negative and Declarative sentences (Definitions and its examples); Sentence structure; active and passive voice; Practice in unified sentence; Analysis of phrase, clause and sentence structure; Transitive and intransitive verbs; Punctuation and spelling; Dictionary Skills (Etymology and Origin); Paragraph writing (Types of Paragraphs and its examples).

Recommended Books:

1. Wren, and Martin, (1997). High School English Grammar and Composition.
2. Thomson, A. J. and Martinet, A. V. (1997). Practical English Grammar by Third edition. Oxford University Press.
3. Azar, Betty Schrampher, (1996). Basics English Grammar, 2nd Edition
4. Azar, Betty Schrampher, (2000). Understanding and Using English Grammar, 3rd Edition.
5. Boutin, M. C., Brinand, S. and Grellet, F. (1993). Intermediate. Oxford Supplementary Skills. Fourth Impression.
6. Tomlinson, B. and Ellis, R. (1992). Upper Intermediate. Oxford Supplementary Skills. Third Impression.
7. Etherton, A. (1987). General Certificate English.
8. Devitiis et al. (1991). English Grammar for Communication.

ECON-103 ISLAMIC STUDIES

Quranic Studies: Introduction to the Quran, History of Quran, Uloom-ul –Quran; Study of the 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), 6) Verses of Surah Al-Ihzab Related to Adab al-Nabi (Verse No.6,21,40,56,57,58.), 7) Verses of Surah Al-Hashar (18,19,20) Related to thinking, Day of Judgment, 8) Verses of Surah Al-Saf Related to Tafakar, Tadabar (Verse No-1,14); Introduction To Sunnah: Basic Concepts of Hadith, History of Hadith, Kinds of Hadith, Uloom –ul-Hadith, Sunnah & Hadith, Legal Position of Sunnah; Seerat of Holy Prophet (PBUH): 1) Life of Muhammad Bin Abdullah (Before Prophet Hood), 2) Life of Holy Prophet (PBUH) in Makkah, 3) Important Lessons Derived from the life of Holy Prophet (PBUH) in Makkah , 4) Life of Holy Prophet (PBUH) in Madina, 5) Important Events of Life Holy Prophet (PBUH) in Madina, 6) Important Lessons Derived from the life of Holy Prophet



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(PBUH) in Madina; Introduction To Islamic Law & Jurisprudence: Basic Concepts of Islamic Law & Jurisprudence, History & Importance of Islamic Law & Jurisprudence, Sources of Islamic Law & Jurisprudence; Islamic Culture & Civilization: Basic Concepts of Islamic Culture & Civilization, Historical Development and Characteristics of Islamic Culture & Civilization, Islamic Culture & Civilization and Contemporary Issues; Islamic Economic Thoughts; Political System of Islam; Islamic Social Thoughts

Recommended Books:

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

ECON-103 ETHICS (For Non Muslims in lieu of Islamic Studies)

Elementary theories in normative ethics of behavior: core areas of ethics, cultural relativism, religious approaches to ethics; Intermediate theories in normative ethics of behavior: utilitarianism, Kant theory, social contract theory.

ECON-105 PRINCIPLES OF MICROECONOMICS

Economics; Different Economic Systems; Micro and Macro economics, scarcity; wants and social welfare Utility; demand; Supply-demand analysis demand elasticities and comparative static analysis; consumer and producer surplus and economic efficiency; Production in short and long run, stages of production; productivity and returns to scale; Short and long-run costs; economies and diseconomies of scale Welfare analysis of price controls and taxation; Public goods and externalities in supply-demand framework; Market structures: Basic analysis of perfect competition, monopoly and imperfect competition; Factor markets, wage and rents; Supply-demand analysis of trade and tariffs.

Recommended Books:

1. Boyes and Melvin. (2005). Microeconomics, 6th. ed. Boston: Houghton-Mifflin.
2. Mankiw, N. and Taylor, M. (2011). Economics, South Western.
3. Sloman, J. and Wride, A. (2009). Economics: Prentice-Hall.
4. McDowell, M., Thon, R., Frank, R. and Bernanke, B. (2009). Principles of Economics,



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ECON-107 CALCULUS

Functions: Real-number line, types of function and their graphs; Concave, convex, quasi-concave and quasi-convex functions; Equations: types of equations, solution of equations, absolute values and inequalities; Limit and Continuity: limit of function, left and right hand limit, continuity; Derivatives and their Applications: Differential functions, differentiation of polynomial, rational and transcendental functions, derivatives and partial derivatives; Integration: Indefinite and definite integrals, rules of integration, applications; Conic Section: circle, parabola.

Recommended Books:

1. Thomas GB, Finney AR, (2005). Calculus (11th edition), Addison – Wesley.USA.
2. Stewart J. (1995). Calculus (3rd edition), Brooks/Cole.
3. Anton H, Bevens I, Davis S. (2005). Calculus (8th edition), John Wiley, New York.
4. S.M. YUSUF, M. AMIN (2012). Calculus (7th edition), Lahore.
5. Bashir Ahmed , University of Mathematics(3rd edition), Multan.

ECON -109 GENERAL SCIENCE

Physical Science: Big Bang and the expanding Universe, Black Holes, Galaxy, Milky Way, Stars, Solar System, Earth from Space; Earth Sciences: Atmosphere of Earth, Plate Tectonics, Drifting Continents, Continental Shelf, Earthquakes, Volcanoes, Tsunamis, Hurricanes; Physics: Nature of Matter, Atomic Number and Atomic Mass, Symbol and Isotope, Quantum Theory, Nucleus of an Atom Radioactivity, Hook's Law and Elasticity, Kinetic Theory of Gases, Gravity, Electricity, Magnetism; Chemistry: Atoms-Elements and Molecules Elements- Compounds and Mixtures, Chemical Bonding, Chemical Reactions, Hydrogen, Carbon, Oxygen, Nitrogen, Coinage Metals, Pesticides, Fertilizers, Soaps and Detergents; Biology: Basis of Life, Classification of Animals, Animal Cells, Nucleic Acids, Proteins, Enzymes, Metabolism, Balanced Food, Vaccines, Antibiotics, Photosynthesis, Respiration; Human Physiology: Bones and Muscles, Digestive System, The Human Heart, Nervous System; Environmental Sciences: Pollution, Ozone Depletion.

Recommended Books:

1. AGS Publishing (2004). General Science, Student Edition.
2. Science Foundation Group, (2006). Twenty First Century Science, University of New York.
3. Brownell, H. Text Book of General Science. (Latest Ed.).
4. Xam, Sharon Wyme. (2006). General Science.
5. Dogar Publishers, Everyday Science.
6. Syed Baqir Raza and Attique Malik, Everyday Science.

ECON-111 INTRODUCTION TO PSYCHOLOGY

Introduction of psychology : historical background and methods of psychology; Schools of Psychology; Observation; Case history method; Experimentation; Survey and Interviewing methods;



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Characteristics and functions of sensations: reception, structure and functions of neuron, Eye and Ear Perception, Nature and factors of perception, subjectivity and objectivity, special and temporal perceptions; Defining learning: classical conditioning and operant conditioning Attention, subjective and objective attentions, distance and span of attention; Emotions: definition, nature and theories; Memory: definition, types, tools and process; Thinking: definition, types and tools, problem solving, decision making, reasoning; Personality: definition and development of personality; biological and environmental factors. Motivational theories; Developmental stages: infancy ,childhood, adolescence and adulthood, physically and morally and socially development, Erikson and Piaget theories of cognitive development, Kohlberg theory of moral development; Language development; defining personality :psychodynamic approaches ,stages of personality development, Defense mechanism , the Neo-Freudian psychoanalysts, personality trades, skinner behaviorist approach, social cognitive approach, biological approach, humanistic approach, psychological disorder, Defining abnormality, classify DSM-IV-TR , Anxiety disorder, Phobic disorder, Panic disorder, Generalized anxiety disorder, Obsessive-compulsive disorder, Somatoform disorder, Mood disorder, Personality disorder, Schizophrenia disorder, Treatment of psychological disorder; Theories of intelligence : G-Factor theory, Fluid and crystallized intelligence theory, Gardner multiple intelligence theory, Assessing intelligence , Binet of IQ test, Achievement and Aptitude test; Defining Reliability and Validity: Types of Reliability and Validity. Life style and Health, Stress causes; coping strategies of stress; Industrial Organizational psychology; consumer psychology; Psychotherapy.

Recommended Books:

1. Feldman, R. S. (2010). Psychology and your life. New York: McGrawHill.
2. Edward, E. Smith and Suson Nolen-Hoeksema ,(2003) Introduction to psychology, 14th Edition.
3. Robert, A. Baron,(2001). Psychology , 8th Edition, New York.
4. Schultz, D.P & Schultz, S.E (1996) A history of modern Psychology, Harcourt publisher New York.

SECOND SEMESTER

ECON-102 ENGLISH COMPREHENSION AND COMPOSITION

Comprehension (Answers to questions on a given text); Précis Writing; Short paragraph writing; Correction of Sentences; Pair of words; Phrasal Verbs; Idioms; Commonly confused words; Effective word choice; Preposition; Letter writing (updated); Business letters; Email writing; Etiquettes of an Email (Ethics of an Email);

Recommended Books:

1. Boovie, An Introduction to Business Communication, 7th Edition.
2. Wren and Martin (1997). High School English Grammar and Composition.



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3. Shafiq, Noorullah. Business Communication. Published by Multan Kitab Ghar.
4. Thomson, A. J. and Martinet, A. V. (1997). Practical English Grammar. Third edition. Oxford University Press.
5. Boutin, Marie-Christine., Brinand, Suzanne. and Grellet, Francoise. (1993). Intermediate. Oxford Supplementary Skills. Fourth Impression.
6. Tomlinson, Brain. and Ellis, Rod. (1992). Upper Intermediate. Oxford Supplementary Skills. Third Impression.
7. Etherton, Allen. (1987). General Certificate English.
8. Devitiis et al. (1991). English Grammar for Communication.

ECON-104 PAKISTAN STUDIES

Historical background of Pakistan; Muslim society in Indo-Pakistan, the movement led by the societies; The downfall of Islamic society; The establishment of British Raj-causes and consequences; Political evolution of Muslims in the twentieth century: Sir Syed Ahmed Khan; Muslim League; Nehru; Allama Iqbal Independence Movement; Lahore Resolution Pakistan culture and society; Constitutional and administrative issues; Pakistan and its geo-political dimension; Pakistan and international affairs ;Pakistan and the challenges ahead

Recommended Books:

1. Ahmad, Masud. (1983). Justice (Retd.) Pakistan: A Study of its Constitutional History 1857-1975.
2. Arif, K. (1984). Pakistan's Foreign Policy: Indian Perspective.
3. Burke, S. M. (1969). Pakistan's Foreign Policy: An Historical Analysis, Oxford.
4. Hamid, Abdul. (1967). Muslim Separation in India: A Brief Survey, 1857-1947, Lahore.
5. Salamat, Zarina, (1992). Pakistan, 1947-1958: An Historical Review, Islamabad.
6. Sarwar, Gul Shahzad, (1989). Pakistan Studies, Karachi.
7. Waheed-uz-Zaman, (1978). Towards Pakistan, Lahore.
8. Ziring, Lawrence. (1971). The Ayub Khan Era: Politics in Pakistan, 1958-1969. New York.
9. Khan, Hamid. (2001). Political and Constitutional Development in Pakistan. Oxford Printing Press.

ECON-106 PRINCIPLES OF MACROECONOMICS

Micro and macro economics; economic aggregates and flow of economic activities; Macroeconomic issues: economic growth, stability and social welfare; Macroeconomic policy framework; National income and product accounts; Theories of consumption/saving and investment; Money, bonds and interest; Macroeconomic equilibrium and policy effectiveness; Inflation-unemployment; trade-off; International trade; balance of payments and exchange rates.



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Recommended Books:

1. Mankiw, G. (2001). Principles of Economics. 2nd Edition. South-West Publishers.
2. Samulson and Nordrons. (2004). Economics. 18th Edition. McGraw Hill. Inc.
3. Parkin, Michael. (2004). Macroeconomics. 7th Edition. Prentice Hall.
4. Miller, R.L. (2005). Economics Today. 14th Edition. Addison Wesley.
5. Sloman, J. (2010). Economics, Latest Edition.

ECON-108 MATHEMATICAL METHODS

Basic Algebra; Set Theory: Real number system, complex numbers, sets and their types, set operations; Matrices: Matrices Linear Algebra, Matrix and Vectors, Systems of simultaneous linear equations and solution methods; Matrix Inverse, Determinants, system of linear equations, Cramer's Rule; Quadratic Equation: Qualitative analysis of roots of a quadratic equation, equation reduce to quadratic equation, cube root of unity, relation b/w roots and coefficients of quadratic equation, partial fraction; Sequence and series: Arithmetic progression, geometric progression, harmonic progression; Taylor Series; Binomial theorem: Mathematical induction, binomial theorem with rational and irrational indices; Trigonometry: Fundamental of trigonometry, trigonometric identities; Analytical Geometry: Coordinates plane and concept of slope.

Recommended Books:

1. Thomas GB, Finney AR (2005). Calculus (11th edition), Addison – Wesley.USA.
2. B. Kolman, David R. Hill, Introductory Linear Algebra (7th edition) .
3. Anton H, Bevens I, Davis S. (2005). Calculus (8th edition), John Wiley, New York.
4. S.M. YUSUF, M. AMIN (2012). Calculus (7th edition), Ilmi kitab khana , Lahore.
5. Bashir Ahmed , University of Mathematics(3rd edition), News corner, Multan.
6. Barnard Kolman and David R. Hill., Introductory Linear Algebra with application, (7th Edition).
7. M.N.M. Talpur, Calculus and Analytic Geometry, Ferozson (Pvt.) Limited.

ECON-110 INTERNATIONAL RELATIONS & CURRENT AFFAIRS

Introduction to International Relations (IR): What is International Relations?; Scope and nature of IR; Approaches to IR; IR as social sciences (Science Or Arts); Core principles of IR. History of International Relations: Legacy of Rome; Westphalia and nation- state system; Evolution of Nation-State. Theories of International Relations: Realism; Liberalism; Marxism; Feminism. Foreign Policy & Diplomacy: What is foreign policy?; Determinants & Objectives of foreign policy; What is Diplomacy?; Functions and types of Diplomacy; Foreign offices & embassies; Decision making in World Politics. International Political Economy (IPE): What is international Political economy?;



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Theories of IPE; Eras of finance; Dependency theories/ development of underdevelopment; Imperialism and types of imperialism; North- South Gap. Globalization and Regional Blocs: What is Globalization?; History of Globalization; Regional Blocs; Clash of civilization; Multinational Corporations; Consumer culture. Theories of peace and conflict; Trade and environment; Ethnicity and peace/conflict. Current Affairs: Kashmir issue; Afghanistan issue; Palestine issue; Human security and Nuclear Proliferation; Peace & conflict in the Middle East; any other issue of current affairs.

Recommended Books:

1. Andrew Heywood, Global Politics (Palgrave: Basingstoke, 2011)
2. Robert J. Art and Robert Jervis (2006). International Politics: Enduring Concepts and Contemporary Issues. Addison-Wesley.
3. Colin McEvedy and David Woodro_E (2002). The New Penguin Atlas of Recent History: Europe since 1815. 2nd. Penguin.
4. Readings from various Newspapers, internet and research journals.

ECON-112 PRINCIPLES OF SOCIOLOGY

Introduction to Sociology; Nature; scope and subject matter of Sociology; Society and community; Relationship with other Social Sciences; Social groups; Definition and functions; Types of social groups; Social institutions (Family, Economic, Religious); Definition; Structure and function of social institutions; Culture and related concepts; Definition and aspects of culture; Elements of culture; Sub cultures; cultural lag; Ethnocentrism; Socialization and personality; Role and status; Social stratification; Caste class and race as basics of social stratification; Social and cultural change; Definition of social change; Impact of globalization on society and culture; Resistance to change.

Recommended Books:

1. Tischer, L. Henery, 2002, Introduction to Sociology, 7th Edition, The Harcourt Press, London.
2. Stark, Rodney, 2004, Sociology, 9th Edition, Thomson Wads Worth, USA.
3. Browne, Ken, 2005, An Introduction to Sociology, 3rd Edition, Polity Press, USA.
4. Stephens, P. Etc., 1998, Think Sociology, Stanley Thornes Publishers (Ltd.), UK.
5. Macionis, J. Jhon and Plummer, Ken, 2005, Sociology: a Global Introduction, 3rd Edition, Pearson Prentice Hall, London.
6. Neulreck, Kenneth, J. 2005, Sociology: Diversity, Conflict and Change, Boston.
7. Barnard, Andy, 2004, Sociology, Cambridge University Press.
8. Giddens, Anthony, 2004, Sociology, 4th Edition, Cambridge Polity Press.
9. Albrow, Martin, 2003, Sociology, London Routledge.
10. Richard, T. Schaefer, 2003, Sociology, 5th Edition, McGraw Hill College.
11. Diana. Kendall. (2001). Sociology in Our Times. 32 Edition. Wadsworth. Ilenline.
12. James. M. (1997). Sociology. USA: Needhan Heigwh. Massachusetts.
13. George J. Brgjar. Michael P. Soroce. (1997). Sociology. USA: Needhan Heigwb. Massachusetts.



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THIRD SEMESTER

ECON-201 ENGLISH COMMUNICATION & WRITING SKILLS

Report Writing: Formal writing, Informal writing, Advantages and disadvantages of report writing, Types of report writing; Memorandum: Parts of Memorandum, Significance of Memorandum, Practice of Memorandum; Letter writing: Personal letters, Official letters, Difference between personal and Official Letters; Minutes of Meetings; Applications for Job with C.V; Essay Writing; Translation Skills; Speaking Skills; Listening Skills; Interview Skills; 7 C's of Communication; Presentations Skills.

Recommended Books:

1. An Introduction to Business Communication by Boovie, published by Mc Graw Hill.
2. Functional English by Prof. Mumtaz Ahmad, Published by Books and Books.
3. An Introduction to Business Communication by Noorullah Shafiq.
4. Practical English Grammar by A.J. Thomson and A.V. Martinet. Exercises 2. Third edition. Oxford University Press 1986. ISBN 0 19 431350 6.
5. 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).
6. Writing. Intermediate by Marie-Christine Boutin, Suzanne Brinand and Françoise Grellet. Oxford Supplementary Skills. Fourth Impression 1993. ISBN 0 19 435405 7 Pages 45-53 (note taking).

ECON-203 INTERMEDIATE MICROECONOMICS

Preference structure; indifference curves analysis and consumer's equilibrium; Demand functions and their properties; Production functions; cost functions and market structure; Short and long run analysis of perfectly competitive markets; Monopoly: natural monopoly, multi-plant monopoly, price discrimination; Monopsony and bilateral monopoly; Monopolistic competition; product differentiation branding; packaging and service; advertising; Market concentration; Oligopoly and Price Discrimination; General Equilibrium; Welfare Economics.

Recommended Books:

1. Pindyck and Rubinfeld with Mehta- Microeconomics- 6th Edition (2005)- Pearson Education, Singapore
2. Walter Nicholson- Intermediate Microeconomics- 6th Edition (1994) or latest – The Dryden Press: Harcourt Brace College Publishers



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3. Koutsoyiannis, A.- Modern Microeconomics- 2nd edition (1979)- Macmillan.
4. Varian Hall R.- Intermediate Microeconomics: Modern Approach- 6th edition (2002)- W. W. Norton Publishing Company, New York.
5. Leftwich, Eckert – The Price System and Resource Allocation – 10th Edition (1988) or latest- The Dryden Press, New York.
6. Dowling, Edward – Mathematics for Economists (1980) - (Schaum’s Outline Series) McGraw Hill Inc.

ECON-205 INTRODUCTION TO STATISTICS

Introduction: Meaning, characteristics, importance, uses and limitation of statistics descriptive and inferential statistics in economic planning of Pakistan, Primary and secondary data, method of collection, Variables and attributes, Measurement scales, error of measurement significant digit, rounding of numbers. **Presentation of Data:** Classification its types aims and basic principle of classification. Tabulation, its types, contraction of statistical tables contraction of frequency distribution, stem-and-leaf display, graphs of frequency distribution. Common shapes of frequency curves, charts and diagrams the stem and leaf display. **Measures of central tendency and measures of dispersion:** Types of averages (Mean, GM, HM Medium and Mode) their methods of competition in case of grouped and ungrouped data, properties advantages and disadvantages. Quartiles, deciles and percentiles, graphic location of median and mode, weighted arithmetic mean. Empirical relation between mean, median and mode, Measures of dispersion (range, Q.D, M.D, variance, standard deviation) methods of competition in case of ungrouped and grouped data) properties, advantages, disadvantages, uses of different types of measures of dispersions. Absolute and relative measures of dispersions measures of Skewness and Kurtosis Sheppard is correction for grouping error. **Index numbers:** Introduction, types, uses of index numbers steps taken in the construction of whole sale price Index and consumer price index numbers. Competition of un-weighted (Simple aggregative and simple average of price relatives) weighted (weighted aggregative and weighted average of price relatives) index numbers. Volume index numbers value index, theoretical tests for index numbers. Index numbers constructed in Pakistan. **Time series analysis:** Introduction, component of time series, analyzing the secular trend and seasonal variation, De-trending and de-seasonalization of data analysis of time series. **Simple and Multiple Regression and Correlation:** Deterministic and probabilistic relations / models modern interpretation of regression. Simple linear regression model, The method ordinary least squares and its assumptions, Precision or standard errors of least squares estimators (The GAUSS-MARKOV THEOREM) coefficient of determination and its properties correlation, properties of correlation coefficient, Rank correlation. Interpretation of simple regression equation, Definition, assumption and interpretation of multiple regression, model, the meaning of partial regression coefficients, Properties of OLS estimators, Multiple coefficient of determination and multiple coefficient of correlation, Interpretation of R^2 , partial coefficient of correlation and its interpretation.

Recommended Books:

1. H.K. Chow et al., Introductory Statistics, 2nd edition, Prentice Hall, 2007.
2. Barrow, M., Statistics for Economics, Accounting and Business Studies, 4th edition (Longman), 2005.



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3. Agresti, Alan, Statistical methods for the social sciences, 3rd Edition, Upper Saddle River, N.J., London, Prentice Hall, 1997.
4. Mc Clave, J.M., Benson, P. G., Sincich, T., Statistics for Business and Economics (9th or 10th ed.) Pearson Publishing, 2005.
5. Berenson M L., D. M. Levine, and T. C. Krehbiel, Basic Business Statistics, 11th edition, Pearson Prentice Hall, 2009.
6. Lind, Marchal, Wathen, Statistical Techniques in Business and Economics, McGraw-Hill Companies, 12th Edition, 2005.
7. Chaudhry, Sher Mohammad and Kamal, Shahid, Introduction to Statistical Theory1 & 2, Lahore: IImi Kitab Khana, 2009.
8. J. Siegel, .Andrew F., Practical Business Statistics (5th edition). Boston: McGraw Hill, 2003.
9. New bold, Paul, Carlson, William L. and Thorne, Betty M, Statistics for Business and Economics (5th edition), New Jersey: Prentice Hall, 20m.
10. Keller, Gerald and Warrack, Brian, Statistics for Management and Economics (5th edition). Boston: Duxbury Thomson Learning, 2000.
11. Stephan and Spegal, Statistics, latest Edition, Schum's Outline Series.
12. Dr M. Afzal Beg, Statistics theory and method, Pakistan.
13. Damodar-N-Gujarati, Basic Econometrics, Latest Edition.
14. Gravetter and Wallnau's, Statistics, Latest Edition.
15. Christopher Dougherty, Introduction to Econometrics, Latest Edition.

ECON-207 FUNDAMENTALS OF GEOGRAPHY

THE EVOLUTION OF GEOGRAPHY: Geography what is it?; The “purpose” of geography, Geographers, how do we view the world; Environmental Determinism vs. Possibilism; Schools of geography and branches of the discipline; The four traditions of geography; The field today: different approaches, e.g., quantitative and qualitative; geography, environmental studies and systems; The scientific method; Models and data collection. THE TOOLS OF GEOGRAPHY: Maps, and its properties -symbols and scales; The many different way maps can be constructed, map projections; Air photos; Satellite imagery; Visual presentations; diagrams, sketches, tables, geographic data; The use of computers in Geography. INTRODUCTION TO LANDFORMS (GEOMORPHOLOGY): The earth's crust (SIMA, SIAL) and classes of rocks (Rock Cycle); The shaping of landforms: exogenous and endogenous processes; Evidence for plate tectonics; Weathering processes: physical and chemical; Mass wasting processes; processes of devastation and human response; earthquakes, Tsunami and volcanoes. FLUVIAL ACTION AND THE WORK OF MOVING WATER: Water on the Earth's surface; Some basic concepts of hydrology: velocity, slope, volume, load, gradient; The erosion cycle; Stream patterns to hydrology; Flooding: our response to devastation and seeking for control; Water and its availability; Shorelines: A special case of water in motion; Waves generation



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and movements; Coastal environment and movements of sediments; Human impacts on coastal environments. Physical Geography of Pakistan; Political Geography of Pakistan; Landscaping of Pakistan; Rivers in Pakistan. BASIC ELEMENTS OF WEATHER AND CLIMATE: The earth's atmosphere –properties and composition of gases; Classification of the atmosphere; Energy movements and the heat balance; Absolute and relative humidity; Atmospheric stability; Atmospheric circulation and winds, pressure gradient force, Coriolis force, pressure belts and winds; Global circulation; Weather forming systems, lake effect snows, lifting mechanisms; Formation of mid-latitude cyclones and fronts, Air masses, warm and cold fronts, Cyclogenesis; Weather systems, thunderstorms, tropical cyclones, tornadoes. CLIMATES OF THE WORLD: The characteristics of world climates; Factors controlling climates. CLIMATIC CHANGE (Environmental Change): Evidence for climatic (environmental) change; Dating of evidence, dating techniques, 14C, Pollen, Dendrochronology; The past glacial periods, Milankovitch; Environmental change -what does the evidence say?; Disappearing mountain glaciers, Arctic sea ice, atmospheric CO2 changes; global temperature increases; Glaciers and landforms from moving ice; Glacial landforms, Periglacial landscapes. ECONOMIC GEOGRAPHY: A matter of classification, and the development of a mindset; Adam Smith, David Ricardo, Karl Marx; The conservative, the liberal, the radical mindset; Von Thunen: model of agricultural land use; Weber: Location theory. POPULATION GEOGRAPHY: What is Population Geography?; What is population growth?; Basic demographic processes; The impact of the Fertility Rate; Demographic Transition; Population Prospects. AN INTEGRATED LOOK AT A HUMAN ENVIRONMENT COMPLEX: Geography of Natural Resources and Human Impact on the Environment. ORDER IN THE SYSTEM: CENTRAL PLACES: An Introduction to Urban Geography; Characteristics of urban settlements, major urban functions; Abstracting reality, the role of models; The morphology of cities; Christaller's Central place theory; A hierarchy of central places; Rank size rule.

Recommended Books:

1. Getis, A. Getis, J., Bjelland, M., and Fellmann, J., Introduction to Geography 13th edition, McGraw Hill Publishers, Boston, MA 2013.
2. Getis, A., Bjelland, M., and Getis, V., Introduction to Geography 14th edition, McGraw Hill Publishers, New York, NY, 2014.
3. Byrne, M.L., GEOSYSTEMS, 2nd Canadian Edition, Pearson Prentice Hall, Toronto, Canada 2009.
4. Mc Knight, T. L., Physical Geography, 10th. Ed., Prentice. Hall

ECON-209 INTRODUCTION TO BUSINESS STUDIES

The Nature of Business; Basic Forms of Business Ownership; The Environment of Business; Types of Businesses; Management in the Business Enterprise; Finance in Business; Marketing in Business; Accounting in Business; Communication in Business; Market research in business, Entrepreneurship and the Business Enterprise; Control and Regulation of Business; Legal Issues in Business: Law of Contract; Legal Issues in Business: Sale of Goods; Business Social Responsibility; Business Ethics.



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Recommended Books:

1. Boone, Louis and Kurtz, David (2001). Contemporary Business, 9th Edition. New York: Dreden Press.
2. Brown, Betty I. and Clon, John E. (1997). Introduction to Business: Our Business and Economic World. New York: McGraw Hill Inc.
3. Inegbenebor, A. U. and Osaze, Esosa Bob (Ed.) (1999). Introduction to Business: A Functional Approach. Lagos: Malthouse Press Limited.
4. Mescon, Michael H., Bovee, Courtland L., and Thill, John V. (2002). Business Today. Upper Saddle River, New Jersey: Prentice Hall.
5. Miller, Roger LeRoy and Farese Lois Schneider (1992). Understanding Business: A World of
6. Opportunities. New York: West Publishing Company.
7. Business Studies John Murray 2001 IGCSE

ECON-211 FOREIGN LANGUAGE: ARABIC/ CHINESE

Alphabet; make up words and phrases; reading and writing; with special emphasis on unfamiliar sounds; Greetings and introductions; Forms of titles and address in the feminine and masculine; Talking about oneself and one's family; Expressing thanks and making requests; Learning numerical; the time and counting; Etiquette in private and public places; Daily routines: work, shopping, leisure; Basics of grammar; Key vocabulary; Reading; writing and speaking; Practical drills to learn reading and writing; Listening comprehension; Drills of unfamiliar alphabet; Insight into cultural differences between regions where the language is spoken.

FOURTH SEMESTER

ECON-202 ENGLISH LITERATURE

Short stories: The Kite by Somerset Maugham, The Necklace by Maupassant; Poetry: Ode to a Nightingale by John Keats, Break, Break, Break by Alfred Tennyson, Across the Indus by Taufeeq Rafat, Meeting at Night by Robert Browning, We are Seven by William Wordsworth, Echoing Green by William Blake; Drama: The Merchant of Venice by Shakespeare (Court Scene: Act-IV Scene 1), Hamlet by Shakespeare (4th Soliloquy: Act-III Scene 1); Prose and Essays: Three Days to See by Helen Keller, Of Marriage and Single Life by Francis Bacon, Of Parents and Children by Francis Bacon. Novel: Joseph Andrews by Henry Fielding

Recommended Books:

1. Shakespearian Tragedy by A.C. Bradley
2. Critical Notes on Keats by Famous Books Lahore.
3. Case Book Series (On Short Stories) by Middleton Murray
4. Critical Notes on Joseph Andrews, Published by Famous Books
5. English for Undergraduates, Oxford University Press.



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ECON-204 INTERMEDIATE MACROECONOMICS

National Income Accounting; Classical & Keynesian Economy of Income and Output Determination; IS-LM framework and AS-AD analysis; Monetary and fiscal policies under Classical and Keynesian settings.

Recommended Books:

1. Miller, R. L. and D. Van Hoose, *Macroeconomics: Theories, Policies, and International Applications*, South West College Publishing, 2003.
2. Gordon, Robert. *Macroeconomics*, 8th Ed. Reading, MA: Addison Wesley Longman, 2001.
3. Burda, M. and C. Wyplosz. *Macroeconomics: A European Text*, 2nd or 3rd Ed. Oxford: Oxford University Press, 1997 (2nd Ed.); 2001 (3rd Ed.).
4. Blanchard, O. *Macroeconomics*. Upper Saddle River, NJ: Prentice Hall, 1997.
5. N. Gregory Mankiw and William M. Scarth, *Macroeconomics (Canadian Edition) 4e*, Worth Publishers 2011.

ECON-206 INTRODUCTION TO PROBABILITY DISTRIBUTION

The concepts of set theory; Venn diagram set operations; The concept of probability; fundamental principle of counting; Concepts of permutation and combination; Random experiment; sample space; event and its types; Objective and subjective definitions of probability; Additional laws of probability; Multiplicative laws of probability; Complementary law; conditional probability; Concept of random variable; discrete and continuous random variables; discrete probability distribution and its mean and variance; Distribution function for discrete probability distribution; Mathematical expectation; laws of expectation; Binomial probability distribution; Hypergeometric probability distribution; the poison distribution; the normal distribution

Recommended Books:

1. H.K. Chow et al., *Introductory Statistics*, 2nd edition, Prentice Hall, 2007.
2. Barrow, M., *Statistics for Economics, Accounting and Business Studies*, 4th edition (Longman), 2005.
3. Agresti, Alan, *Statistical methods for the social sciences*, 3rd Edition, Upper Saddle River, N.J., London, Prentice Hall, 1997.
4. Mc Clave, J.M., Benson, P. G., Sincich, T., *Statistics for Business and Economics (9th or 10th ed.)* Pearson Publishing, 2005.
5. Berenson M L., D. M. Levine, and T. C. Krehbiel, *Basic Business Statistics*, 11th edition, Pearson Prentice Hall, 2009.
6. Lind, Marchal, Wathen, *Statistical Techniques in Business and Economics*, McGraw-Hill Companies, 12th Edition, 2005.
7. Chaudhry, Sher Mohammad and Kamal, Shahid, *Introduction to Statistical Theory 1 & 2*, Lahore: IImi Kitab Khana, 2009.



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8. J. Siegel, .Andrew F., Practical Business Statistics (5th edition). Boston: McGraw Hill, 2003.
9. New bold, Paul, Carlson, William L. and Thorne, Betty M, Statistics for Business and Economics (5th edition), New Jersey: Prentice Hall, 20m.
10. Keller, Gerald and Warrack, Brian, Statistics for Management and Economics (5th edition). Boston: Duxbury Thomson Learning, 2000.
11. Stephan and Spegal, Statistics, latest Edition, Schum's Outline Series.
12. Dr M. Afzal Beg Statistics theory and method

ECON-208 COMPUTER APPLICATIONS

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) & its functions and tools; Spread Sheet (MS Excel) & its functions and tools; Presentations (MS PowerPoint) & its functions and tools; Internet; Searching; Browsing; Searching Economic data; Downloading Articles.

Recommended Books:

1. James A. O'Brien.the Nature of Computers
2. A Textbook of Computer Studies, published by NWFP Textbook Board, Peshawar.
3. Robert Cowart, Mastering Windows.
4. Lrnnie E. Mosely and David M. Boodey. Mastering Microsoft Office Professional for Windows.
5. Thomas Chester & Richard H. Aklen. Mastering Excel.
6. Deepak Bharihoke, Fundamentals of Information Technology, published by Excel Books.

ECON-210 PRINCIPLES OF ENTREPRENEURSHIP

Introduction to Entrepreneurship; Introduction to Entrepreneurial Processes and Entrepreneurs Innovation; creativity and business idea; Identifying Opportunities and Generate Business Ideas; Business start-up process and stages of starting a business; Business start-up; The concept and content of the business plan; Preparation of marketing plan; Financial plan of business firm; Production and management plan of the business firm; Business plan writing and presentation; Social entrepreneurship and female entrepreneurship.



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Recommended Books:

1. Allen, Kathleen, 2006 (4th Edition). Launching New Ventures: An Entrepreneurial Approach. New York: Houghton-Mifflin.
2. Newton, D., 1997. Entrepreneurial Ethics: Values and Decision Making in Successful New Ventures, Dubuque, Iowa: Kendall-Hunt.
3. Barringer, B.R., & Ireland, D.R. (2012). Entrepreneurship: Successfully launching new ventures (4th Ed.). Prentice Hall.
4. Any latest Book covering above topics.

ECON-212 ECONOMICS OF PAKISTAN

Growth and Investment; Agriculture; Manufacturing & Mining; Fiscal Development; Money and Credit; Capital Markets; Inflation; Trade and Payments; Public Debt; Education; Health & Nutrition; Population, Labour Force and Employment; Transport and Communications; Energy; Poverty and Social safety nets; Environment; Contingent Liabilities; Tax Expenditures; Economic and Social Indicators; Overview of the Economy.

Note: This course covers state of the economy, trends and profiles.

Recommended Books:

1. Kh. Amjad Saeed, (latest), “The Economy of Pakistan”, S.A. Salman Publications.
2. Vaqar Ahmad & Rashid Amad, The management of Pakistan’s Economy, Oxford University Press, Karachi.
3. Chaudhary M. Aslam, Human Resource Development.
4. Pakistan Economic Surveys, Published by Government of Pakistan, (latest issues).
5. Annual Report of State Bank of Pakistan and CBR year books. (latest issue)

FIFTH SEMESTER

ECON-301 MICROECONOMIC THEORY

Microeconomics: Comparison with other branches of economics; The uses and limitations of Microeconomic theories; Consumer’s equilibrium under Cardinal Approach and consumer demand curve; Ordinal Approach axioms and Consumer’s equilibrium under Ordinal Approach; Effects on consumer equilibrium; Marginal rate of consumer substitution; Properties of indifference curves; Graphical derivation of Marshallian; Hicksian and Slutsky demand curves; Theory of Revealed Preference; Implication of Elasticities and Problem Solving Approach; Identification of Inferior goods; Griffin goods and normal goods.



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The Concept of Production Function; Production with one variable and two variable inputs; Laws of Returns and Returns to scale; The substitution and Resource effects of change in input prices; Euler's Theorem; The elasticity of substitution; Some special production functions: Cobb Douglas Production function; CES Production Function; Translog Production function; Homogenous Production Function. Traditional; Modern and Engineering costs Theories; Economies of Scale and Scope.

Theory of the Market: Perfect competition, pure monopoly, Monopolistic Competition & Theories of Oligopoly; Factor Pricing Models; General Equilibrium Theory and Social Welfare; Concepts of Game Theory

Recommended Books:

1. Bilas, Richard A, Microeconomic Theory*, McGraw-Hill Kogakusha Ltd, (2nd Edition).
2. Koutsoyiannis, A, Modern Microeconomics*, London, Macmillan, (Latest Edition).
3. Pindyck, Robert. S , Daniel L. Rubinfeld and Prem L.Mehta, Microeconomics*. Pearson Education Inc, (Sixth Edition).
4. Henderson, J.M & Quandt, R.E, Microeconomic Theory*, N.Y Macmillan II A Book Co.
5. Varian Hal R., Microeconomics Analysis*, Norton & Company, New York, 1992.
6. Ferguson, C.E & Gould, J.P, Microeconomic Theory, Macmillan, (Latest Edition).
7. Layard and Walter A.A., Microeconomics, McGraw Hills, (Latest Edition).
8. Walter Nicholson, Microeconomic Theory, Basic Principles and Extensions (6th edition)

**Strongly Recommended*

ECON-303 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.

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



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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:

1. Brown, Lester, The Social Impact. Of Green Revolution, New York, The Greogic Endowment for International Peace, 1971
2. Capstick Margret. The Economics of Agriculture, London George Allen Unwin Ltd. latest edition.
3. Chaudhary M. Aslam, Agricultural Development and Public Policies, Izhar Sons, Lahore, 1989.
4. Ghatak S., and Ingersent K., Agriculture and Economic Development, (Latest Edition), Harvester Press.
5. Johnston, Bruce, F & Fellir Kily. Agricultural and Structural Transformation, Economic Strategies in late Developing Countries.
6. Khan Mahmood-ul-Hassan. The Economics of Green Revolution in Pakistan, New York, Published 1975.

ECON-305 MATHEMATICAL ECONOMICS

The Nature of Mathematical Economics; Economic Models: Ingredients of mathematical models: Real Number Systems: Concept of Sets: Relations and Functions: Types of Functions; Equilibrium Analysis in Economics: Partial and General Market Analysis: Some Economic Examples and Interpretations; Linear Models and Matrix Algebra: Matrices and Vectors with its Operations: Laws and Forms of Matrices: Finite Markov Chains: Conditions and Tests of Nonsingularity: Properties of Determinants: Finding the Inverse Matrix: Cramer’s Rule: Leontif Input-Output Models; Comparative Statics and the Concept of Derivatives; Rules of Differentiation and their Use in Comparative Statics; Applications to Comparative –Static Analysis; Concept of Functional Dependence; Comparative-Static Analysis of General-Function Models: Differentials and Total Derivatives: Derivatives of Implicit Functions: Comparative Statics of General-Function Models.

Recommended books:

1. Alpha C. Chiang and K. Wainwright, *Fundamental Methods of Mathematical Economics**, Latest Edition, Mc Graw-Hill.
2. Dowling, Edward T. *Introduction to Mathematical Economics** (part of Schaum’s easy outlines series), New York, McGraw-Hill, 2006.
3. Pemberton and Rau, *Mathematics for Economists**, Manchester University Press, 3rd Edition, 2011.
4. Abadir, K.A. and Magnus, J. R., *Matrix Algebra**, Cambridge University Press, 2005.
5. Fuente, A. de la, *Mathematical Methods and Models for Economists**, Cambridge University Press, 2000.



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6. Sydsaeter, Knut and Peter Hammond. *Essential Mathematics for Economic Analysis, 2nd Ed.* Financial Times, Prentice Hall, Harlow, England. ISBN is 0-273-68180-X, 2006.
7. Simon, Carl P, and Lawrence Blume, *Mathematics for Economists*. New York: W.W. Norton & Company, Inc., 1994.
8. Anthony, Martin Henry George, *Mathematics for economics and finance* Cambridge, Cambridge University Press, 1996.
9. Bradley, Teresa, *Essential mathematics for economics and business, 2nd Edition*, Chichester, J. Wiley, 2002.
10. Jacques, Ian, *Mathematics for economics and business, 5th Edition*, Harlow, FT Prentice Hall, 2006.
11. Rosser, M. J, *Basic mathematics for economists, 2nd Edition*, London, Routledge, 2003.
12. Weber E. Jean, *Mathematical Analysis, Business and Economic Applications, (Latest Edition)* I-Harper and Row Publishers, New York.
13. Blume, Lawrence, *Mathematics for economists* New York, Norton, 1994.
14. Hoy, Michael, *Mathematics for Economists*, Cambridge, MA: MIT Press, 2001.
15. Klein, Michael W., *Mathematical Methods for Economics*. Boston, MA: Addison-Wesley, 2002.
16. Hoy, Livernois, McKenna, Rees and Stengos, *Mathematics for Economics*, MIT Press, 3rd Edition, 2011.

* **Strongly Recommended**

ECON-307 STATISTICAL INFERENCE

Sampling and its advantages sampling frame; sample design probability and non probability sampling frame; sample design probability and non probability sampling; Simple random sampling; stratified random sampling; systematic sampling; cluster sampling; purpose sampling; quote sampling; sampling and non sampling error; sampling distribution of mean with properties; Sampling distribution of differences between two sample mean with properties bias; Point estimation; properties of good estimator; Internal estimation; Confidence interval for population mean when σ^2 known and when σ^2 unknown (large sample size); Interpretation of confidence interval; **Test of hypotheses:** Null and alternative hypotheses; Simple and composite hypotheses; critical and acceptance region; Type one error and type two error; Tests of hypotheses concerning population mean; differences between two means; **The student t distribution introduction:** Properties and assumption of student to distribution; Confidence interval for population means and differences between two population means (small samples); Small samples tests of means; Testing hypotheses about $\rho = 0$; **The chi-square distribution:** Introduction; Properties and assumption of the chi square distribution; Pearsons chi square; goodness of fit testing hypothesis about independence of two variable; Concept of degree of freedom; **Analysis of variance:** The F Distribution; Properties and assumption of F distribution; Testing hypothesis about the equality of two variances; assumption of analysis of variance; One way analysis of variance two way analysis of variance without interaction; the least significant difference test

Recommended Books:

1. H.K. Chow et al., *Introductory Statistics*, 2nd edition, Prentice Hall, 2007.
2. Barrow, M., *Statistics for Economics, Accounting and Business Studies*, 4th edition (Longman), 2005.



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3. Agresti, Alan, Statistical methods for the social sciences, 3rd Edition, Upper Saddle River, N.J., London, Prentice Hall, 1997.
4. Mc Clave, J.M., Benson, P. G., Sincich, T., Statistics for Business and Economics (9th or 10th ed.) Pearson Publishing, 2005.
5. Berenson M L., D. M. Levine, and T. C. Krehbiel, Basic Business Statistics, 11th edition, Pearson Prentice Hall, 2009.
6. Lind, Marchal, Wathen, Statistical Techniques in Business and Economics, McGraw-Hill Companies, 12th Edition, 2005.
7. Chaudhry, Sher Mohammad and Kamal, Shahid, Introduction to Statistical Theory 1 & 2, Lahore: Iimi Kitab Khana, 2009.
8. J. Siegel, .Andrew F., Practical Business Statistics (5th edition). Boston: McGraw Hill, 2003.
9. New bold, Paul, Carlson, William L. and Thorne, Betty M, Statistics for Business and Economics (5th edition), New Jersey: Prentice Hall, 20m.
10. Keller, Gerald and Warrack, Brian, Statistics for Management and Economics (5th edition). Boston: Duxbury Thomson Learning, 2000.
11. Stephan and Spegal, Statistics, latest Edition, Schum's Outline Series.
12. Dr M. Afzal Beg Statistics theory and method

ECON-309 DEVELOPMENT ECONOMICS

The nature of development economics; Why study development economics? Some critical questions; The important role of values in development economics. Traditional economic measures; The new economic view of development; Three core values of development; The three objectives of development; Diverse Structures and Common Characteristics of Developing Nations; Some classifications of developing countries; common characteristics of developing nations.

Nurkse's Model of Vicious Circle of Poverty; Nelson's low level equilibrium trap; Leibenstein's critical minimum theory; Rosenstein Rodan's Big Push theory; The linear stages theory: Rostow growth model and Harrod Domar growth model; Structural change models; International dependence revolution: Neocolonial Dependence Model; The False-Paradigm Model; The Dualistic-Development Thesis; Dualistic theories; The Neo-classical counter revolution: Challenging the Statist Model: Free Markets; Public Choice; and Market-Friendly Approaches. The Growth Game; The Economics of Growth: Capital; Labor; and Technology; Capital Accumulation; Population and Labor Force Growth; Technological Progress; The Historical Record: Kuznets's Six Characteristics of Modern Economic Growth.

The Growth Controversy; Some Basic Concepts: Size and Functional Distributions of Income; Size Distributions; Lorenz Curves; Dualistic Development and Shifting Lorenz Curves: Some Stylized Typologies; GINI Coefficients and Aggregate Measures of Inequality; Functional Distributions; A Review of Evidence: Inequality and Absolute Poverty in Third World Countries. Inequality: Variations among Countries; Absolute Poverty: Extent and Magnitude; The Human Poverty Index;



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Economic Characteristics of Poverty Groups; The Kuznets Hypothesis and Other Tests Redefining Development Goals: Growth with Improved Income Distribution.

The Basic Issue: Population Growth and the Quality of Life; A Review of Numbers: Population Growth—Past, Present and Future; World Population Growth through History; Structure of the World's Population; The Hidden Momentum of Population Growth; The Demographic Transition; The Causes of High Fertility in Developing Countries: The Malthusian and Household Models; The Malthusian -Population Trap; Criticisms of the Malthusian Model. The Microeconomic Household Theory of Fertility; The Demand for Children in Developing Countries: Some Empirical Evidence; Implications for Development and Fertility; The Consequences of High Fertility: Some Conflicting opinions; Goals and Objectives: Toward-a Consensus Some Policy Approaches.

The Employment Problem: Some Basic Issues Dimensions of LDC Unemployment: Evidence and Concepts; Employment and Unemployment: Trends and Projections; Four Dimensions of the Employment Problem; Labor Force: Present and Projected; Labor Underutilization: Some Definitional Distinctions; Linkages among Unemployment; Poverty and Income Distribution; The Phenomenon of Jobless Growth and the Output-Employment Lag; Economic Models of Employment Determination.

The Migration and Urbanization Dilemma; Urbanization: Trends and Projections; The Urban; Informal Sector; Women in the informal Sector; Urban Unemployment Migration and Development; Toward an Economic Theory of Rural-Urban Migration: A Verbal Description of the Todaro Model, A Diagrammatic Presentation, Five Policy Implications; The Shape of a Comprehensive Migration and Employment Strategy.

Education and Human Resources; Education in Developing Regions; Public Educational Expenditure; Enrollments; Literacy; Costs and Earnings; The Gender Gap: Women and Education; The Economics of Education and Employment; Educational Supply and Demand: The Relationship between Employment Opportunities and Educational Demands; Social versus Private Benefits and Costs; Education, Society, and Development; Some Issues in Education and Economic Growth; Inequality and Poverty; Education and Internal Migration; and the Brain Drain; Education of Women; Fertility and Child Health; Education and Rural Development: Summary and Conclusions; International issues in development economics: foreign Aid; BOP; Debt Problem.

Recommended Books:

1. Todaro, M.P, *Economic Development**, Latest Edition, Heinemann;London.
2. Balasubramanyam V and Hall. S (Latest Edition) *Current Issues in Development Economics*, London.
3. Chenery H.B and Srinivasan, *Hand book of Development Economics**, Vol I & II Amsterdam (Latest Edition), North Holland.
4. Cypher J. M and Dietz James (Latest Edition), *The process of Economic development**.



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5. Ghatak Subarat, (Latest Edition), Introduction to Development Economic, Routledge*, Taylor and Francis Group, London /New York.
6. Herrick B, and Kindlebergerc, (Latest Edition), Economic Development, McMillan New York.
7. Jones H, G. An Introduction To Modern Theories Of Economic Growth, (Latest Edi), McGraw Hill.
8. Hirshman, A.O., Strategy of Economic Development, Yale University Press.
9. Mahboob ul Haq, Centre for Human Resource Development, Human Development in South Asia, Annual Report Islamabad.
10. Mahboob ul Haq, Poverty Curtain.
11. A profile of Poverty in Pakistan (In collaboration with UNDP).
12. Meier Gerald M, Leading Issues In Economic Development*, (Latest Issue) Oxford Uni Press.
13. Thirlwall A. P., (Latest Edition), Growth And Development*, With Special Reference To Developing Economics, 7th Edition ,Palgrave Publisher.
14. UNDP, Human Development Report, Annual Reports.
15. Van Den Berb H,(2001) Economics Growth Development, McGraw hill.
16. William Easterly, Growth without Development, A case Study Of Pakistan, World Bank.
17. World bank, world Development Report, Annual Report,(Various Issues).
18. William Easterly, Growth without development, A Case study of Pakistan, World Bank.
19. Yotopolus, P. A. and Nugent Jeffery B, Economics of Development, Empirical Investigation (Latest issue), *Harper and Row Publishers, London/ New York.*
**Strongly Recommended*

SIXTH SEMESTER

ECON-302 MACROECONOMIC THEORY

Theories of Consumption: Duesenbury Hypothesis; Keynesian Consumption Function. Permanent Income Hypothesis / Life Cycle Hypothesis; Beyond Permanent Income Hypothesis; Kuznet's findings and Reconciliation of Marginal Propensity to Consume and Average Propensity to Consume and Evidences; Mathematical derivation of Consumption Models; The MPS Model; Wealth effect in the Static Model; Implications of Consumption Theories for Policy Formulation and Stabilization Policy; Random Walk Model. Investment and its theories

Aggregate supply models; The sticky wage model; the imperfect information model; the sticky – price model; The Worker Misperception Model. The concept of inflation; Demand pull and Cost push inflation; hyperinflation; social cost of inflation; theory of stagflation; The Relation of Wages Changes to Unemployment; The Philips curve – the theoretical basis for the Philips curve. Unemployment and price expectations; The long-run Philips curve; Deriving the Philips curve from the aggregate supply curve; Adaptive expectations and inflation inertia; The Natural Rate Theory; Monetarist View of the Philips Curve; Keynesian view of the Philips curve. The size of Government



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Debt; Measurement Problem: Inflation; Capital Assets; Business Cycle etc; Ricardian view or Debt: Ricardian Equivalence; Consumers and Future Taxes; Tax shooting; Delayed Stabilization; Ricardo and Ricardian Equivalence and Debate; Model or Debt Crises.

The theory of real business cycles; interpretation; labor market; technology shocks; household behavior; the persistence of output fluctuation; limitations of the models Samuelson's multiplier – accelerator interaction theory of trade cycles; Kaldor's model of the business cycle. Hicks's theory of business cycle; AD-AS theories of output functions; Basic neoclassical growth model/Solow growth model – the accumulation of capital; determination of steady state equilibrium in the long-run; how savings affects growth; the golden rule level of capital; how population affects the steady state level; technological progress in the Solow model; policies to promote growth endogenous growth theory.

Recommended Books:

1. Branson, William H., (1979), *Macroeconomic Theory and Policy**, Harper and Row Publishers, New York / London.
2. Froyen, R. T., *Macroeconomics: Theories and Policies**, (Latest Edition), Prentice Hall, 7th Edition, 2002.
3. Branson, William H., and Litvack James M., *Macroeconomics**, (Latest Edition), Princeton University.
4. Glahe, Fred R., (Latest Edition), *Macroeconomics, Theory and Policy*, Harcourt Brace Jovanovich Inc.
5. Mankiw, Gregory N., (2000) *Macroeconomics**, Worth Publishers, New York.
6. Peel D. and Minfow P., (2002). *Advance Macroeconomics*, Edward Elgar, Cheltenham, U.K.
7. Delorme. Jr., *Macroeconomics*, 2nd Edition.
8. Romer, David, (2001). *Advanced Macroeconomics**, McGraw Hills, New York, London.
9. Sargent, Thomas J., (Latest Edition) *Rational Expectations and Inflation**, Harper and Raw Publishers, New York / London.

* ***Strongly Recommended***

ECON-304 ECONOMICS OF MONEY AND BANKING

Money and its functions; kinds of money; evolution of monetary system; Monetary Standards; Monetary Aggregates; 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; Money Multiplier; Deposit Multiplier; Credit Multiplier; Central bank as monetary base; Banking: Commercial bank: structure and functions of commercial banks; money / credit creation. Functions of commercial banks; Central Bank: structure and functions of central bank; control of money supply; tools to control of money supply; 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; Lags in Monetary Policy; Efficiency of Monetary Policy; Islamic Banking.



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Recommended Books:

1. Fredric, S. Mishkin, Financial Markets Institutions and Money. Harper Collins College Publishers, Latest Edition.
2. Fredric S. Mishkin, Economics of Money, Banking and Financial Markets.
3. Lawrence Harris, Monetary Theory McGraw Hill, 1985.
4. Luckett G. Dudley, Money and Banking, 3rd Ed, McGraw Hill 1984.
5. Goldfeld & Chandler, The Economics of Money and Banking Harper& Row Publishers.
6. Vaish, M.C., Monetary Theory Vikas Publishing House, Delhi 2000.
7. Bennett. T. McCallum, Monetary Economics (Theory &Policy), McMillan 1989.

ECON-306 OPTIMIZATION AND DYNAMIC ANALYSIS

Concept of Optimization; Optimization: Special Variety of Equilibrium Analysis; The nature of exponential functions; Nature exponential functions and the problem of growth; Logarithms; Logarithmic functions; Derivatives of Exponential and Logarithmic Functions; Optimal Timing; Further Application of exponential and Logarithmic Derivatives; The Differential version of optimization conditions; Extreme values of a function of two variables; Objective functions with more than two variables; second order conditions in Relation to Concavity and Convexity; Economic applications; Comparative Static aspects of optimization; Effects of Constraint; Finding the Stationary values; Second Order Conditions; Quasiconcavity and Quasiconvexity; Non linear programming and Kuhn Tucker Conditions; The Constraint Qualification; Economic Applications; Sufficiency Theorems in Non linear Programming; Maximum Value functions and the Envelope Theorem; Duality and the Envelope Theorem.

Economic Dynamics and Integral Calculus: Dynamics and Integration: Indefinite Integrals: Definite Integrals: Improper Integrals: Some Economic Applications of Integrals: Domar Growth Model; First Order linear differential equations with constant coefficient and constant term; Dynamics of Market price; Variable coefficient and variable term; Exact Differential equations; Non linear Differential equations of the first order and first degree; The Qualitative Graphic Approach; Solow Growth Model; Second Order linear differential equations with constant coefficients and constant term; Complex numbers and circular Functions; The interaction of inflation and unemployment; Differential equations with a variable term; Discrete time; differences and difference equations; Solving a first order difference equations; The dynamic stability of equilibrium; The Cobweb model; Second order linear difference equations with constant coefficients and constant term; Samuelson Multiplier Acceleration interaction model; Inflation and Unemployment in Discrete time; Game Theory.

Recommended Books:



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Chairman, Department of Economics

1. Alpha C Chaing and Kevin Wainwright, Fundamental Methods of Mathematical Economics, Latest Edition, McGraw hill.
2. Brichenhall C. & P. Grout, Mathematics for Modern Economics, Latest Edition.
3. Dowling; E.T, Mathematics for Economists, Latest Edition.
4. Intrilligator; M.D, Mathematical Optimization and Economic Theory
5. Kooros; A., Elements of Mathematical Economics, Latest Edition.
6. Varian; H.R, Microeconomic Analysis, Latest Edition.

ECON-308 FUNDAMENTALS OF ECONOMETRICS

Definition and scope of Econometrics; Methodology of Econometrics; Types of Econometrics; The Role of the Computer; 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; 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. 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.

Recommended Books:

1. Gujarati, N. D., Basic Econometric Harper, Row, Latest Edition.
2. Johnston, J. J., Econometrics Methods McGraw Hill, Latest Edition.
3. Koutsouyiannis, A. R., Theory of Econometrics Harper, Row, 2nd Edition.
4. Pindyck, R.S.Rubinfeld, Econometric Models and Economic Forecasts, McGraw Hill, Latest edition.
5. Christopher Dougherty, Introduction to Econometrics, Third Edition, Oxford.
6. Dominick Salvatore and Derrick Reagle, Statistics and Econometrics, Latest edition.
7. Maddala, G.S. Econometrics McGraw Hill, latest Edition.

ECON-310 ISSUES IN PAKISTAN ECONOMY

Pakistan's Development Experience; Agriculture Development; Agricultural Pricing Issues; Rural Development Policy; Resource Mobilization; Industrial Development; Policy and Issues; Internal and External Migration; Urban Informal Sector; Income Distribution and Poverty; Unemployment Issue; Foreign Aid and Debt Burden; Commercial Policy; Planning Process in Pakistan; Balance of Payments Issues; Trade Regimes; Issues of Fiscal and Monetary Policies; Financial & Capital markets; Structural Adjustment Policies.

Recommended Books:



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1. S. Akbar Zaidi, Issues in Pakistan Economy, Oxford Univ. Press, Karachi, Latest Edition.
2. Khawaja Amjad Saeed, The Economy of Pakistan, Karachi: Oxford University Press, Latest Edition.
3. Government of Pakistan, Pakistan Economic Survey (Various Issues including Latest One)
4. Ishrat Hussain, Pakistan: The Economy at the Cross Roads - Past Policies and Present Imperatives, Oxford Univ. Press, Karachi.
5. Khan, Shahrukh R., 50 Years of Pakistan's Economy - Traditional Topics and Contemporary Concerns. Oxford Univ. Press, Karachi (2000).
6. Mahbool-ul-Haq, Centre for Human Development (MHCHD), Poverty Profile of Pakistan, (1989), Oxford University Press.
7. World Development Reports, World Bank.

SEVENTH SEMESTER

ECON-401 MONETARY THEORY AND POLICY

Introduction to monetary theory and policy; Theories of Demand for money; Supply of money models; Inflation and money; Economic growth and money; Role of money in international trade; Monetary policy and its effectiveness through AD-AS & IS-LM framework.

Recommended Books:

1. Lawrence Harris, Monetary Theory McGraw Hill, 1985.
2. Frederic S. Mishkin, Monetary Policy and Strategy , 2009
3. Carl E. Walsh, Monetary Theory and Policy, Third Edition, 2011
4. Vaish, M.C., Monetary Theory Vikas Publishing House, Delhi 2000.
5. Bennett. T. McCallum, Monetary Economics (Theory &Policy), McMillan 1989.

ECON-403 ECONOMETRIC METHODS

Concept of Multicollinearity; Consequences of Multicollinearity problem; Methods for detection of Multicollinearity problem; Remedial measures for Multicollinearity problem; Estimations and Interpretations; Heteroscedasticity and its Implications; OLS estimation in the presence of heteroscedasticity; Generalized least squares (GLS); Detection of heteroscedasticity; Remedial measures; 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; Introduction to Model specification; Types of Specification errors; Consequences and Tests of Specification Errors; Errors of Measurement; Approaches in Choosing an Appropriate Model; Distributed Lag Models and Estimations: The Koyck Transformation; The Almon Transformation; Other models of Lag Structures; Autoregressive Models and estimation: The Partial Adjustment Model; The Adaptive Expectations Model; Tests of Autocorrelation in Autoregressive Models; Simultaneous Equation Models; Introduction of Qualitative Response Regression Models; The linear probability model; The



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Logit model; The Probit model; The Tobit model; Introduction to Time series data handling techniques; Panel Data Analysis Techniques.

Recommended Books:

1. Gujarati, D., Basic Econometrics, McGraw Hill, Latest Edition.
2. Intrilligator, Econometric Model, Techniques and Applications N.J. Printice Hall, Latest Edition.
3. Johnston, Econometric Models McGraw Hill, Latest Edition.
4. Christopher Dougherty, Introduction to Econometrics, Third Edition, Oxford.
5. Dominick Salvatore and Derrick Reagle, Statistics and Econometrics, Latest edition.
6. Koutsoyinnis, Theory of Econometrics McMillan, Latest Edition.
7. Maddala, J.S. Econometrics McGraw Hill, New York, Latest Edition.
8. Pindyck R.R., Applied Econometrics, 2nd Ed Mc Graw Hill 1993.

ECON-405 PUBLIC FINANCE

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 cooperative taxes; wealth tax; sales tax; excise and custom duties; surcharges; Direct and indirect 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 Edition.
2. Otto Eckstein, Public Finance 3rd Edition, 1973.
3. Richard Aronson, Public Finance International Student Ed 1985.
4. Due John F., Government Finance.
5. Chellieah R.J., Fiscal policy in less developed countries.



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6. Harvey, S.Rosen, Public finance 5th Ed, McGraw Hill 1999.
7. Eleanor Brown & Robert, L., Reading, Issues and Problems in Public Finance IRWIN.
8. Bernard, P.Herber, Modern Public Finance, A.I.T.B.S 1999.
9. David, N.Hyman, Public Finance, A Contemporary application of to Policy: Harcourt. Brace College Publishers 1996.

ECON-407 INTERNATIONAL TRADE: THEORY & POLICY

Introduction to International Economics; The scope and significance of international economics; International Economic Theories and Policies; Current International Economic Problems and Challenges; Various Classical Theories of International Trade and Critical appraisals; Demand and Supply, Offer Curves, and the Terms of Trade; Factor Endowments and the Heckscher-Ohlin Theory: Empirical evidences and critical appraisal; Economies of Scale, Imperfect Competition and International Trade; Economic Growth and International Trade.

International Trade Policies: Trade Restrictions, Theory of Tariffs; Instruments of Commercial Policy: Non Tariff Trade barriers and the New Protectionism; Economic Integration: Types and reasons for economic integration; The theory of customs unions; International Trade and Economic Development; International Resource Movements and Multinational Corporations.

Recommended Books:

1. Dominick Salvatore, International Economics: Trade and Finance, Latest Edition, Wiley.
2. Miltiades Chacholiades, International Economics, New York, McGraw Hill Co.
3. Sodersten, B.O., International Economics New York, Harper and Row, Latest Edition.
4. James C. Ingram, International Economics, 3rd ed. John Wiley & Sons, 1994.
5. Grubel, Herbert G., International Economics, Homewood IL, Richard D. Irwin (Ins), Latest.

ECON-409 ISLAMIC ECONOMICS

Introduction of Islamic Economics; Nature of Islamic Economics; Need and Importance of Islamic Economics; Islamic economic system and Other Economic Systems; Brief Introduction of Basic Vales of Islam; Taqva; Halal and Haram; Justice; Benevolence; Equality; Brotherhood and Cooperation as Determinants of Economic Behaviour and Policies; Sources of Islamic economics: the Holy Quran; The Sunnah of Allah's Apostle (S.A.W).

Meanings and Importance; Islam and Consumption of Wealth; Moderation; Theory of Consumer's Behaviour in an Islamic Society. Islamic Approach to Production; Ownership of land. Tenancy (Muzarat). Partnership (Shirakat). Modarbah; Objectives of an Islamic Firm; Al-Hisba and Islamic Firm; Islamic Firm under different market conditions; Islam and Price Mechanism; Meaning; Quranic Emphasis on the Circulation of Wealth; Rent; Profit; Wages; Dignity of Labour; Measures to Stop Concentration of Wealth: Legal Measures; Optional Measures. Islamic Law of Inheritance; Definition of Interest; Riba in the period of Ignorance; Definition of Riba or Interest in Islam; Kinds

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of Interest; Distinction between Trade and Riba; Moral, Social and Economic Importance of Prohibition of Interest; Western Justification of interest; Interest-Free Banking; Functions of the Bank in Interest-Based Economy and Interest-Free Banking; Need for Interest-Free Banking; Banking in the Economic System of Islam; Model of Interest-Free Banking; Interest-Free Banking in Pakistan;

Meaning; Objectives; Instruments of Fiscal Policy; Islamic State and its Fiscal Policy; Zakat as an Instrument of Fiscal Policy; Effects of Zakat on the Allocation; Zakat and Economic Stability. The Institution of Bait-ul-Mal; Principles of Tax Policy in Islam; Public Expenditure in Islamic Economy; Zakat and Ushr Ordinance 1980; Central Banking and Monetary Policy in Islam. Inflation VS Design of Capital market; Monetary Policy in an Islamic Framework; Effects and Causes of inflation in Islamic Economy; Consumption; saving and Investment Functions in Islamic Environment; Determents of Islamic Consumption Function; The Islamic State: Its Meaning; Aims and Functions; Concepts of Economic Planning and Development in Islam

Recommended Books:

1. Dar A. H. & M. Akram, Islamic economics, Ilmi Kitab Khana, Lahore (Latest edition.)
2. M.A Mannan, Islamic Economics: Theory and Practice, A Comparative Study,. Cambridge, Hodder and Stoughton, Latest edition.
3. M. Fahim Khan, Consumption Function in an Islamic Economic Framework, International Centre for Research in Islamic Economics, King Abdul Aziz Univ, KSA.

EIGHTH SEMESTER

ECON-402 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.



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Recommended Books:

1. Charles P. Jones, Investments latest Edition
2. Bodie, Kane and Marcus, Investments 5th Edition.
3. Grinblatt and Titman, Financial Markets and Corporate Strategy, 2nd Edition.
4. Cecchetti, Money, Banking and Financial markets.
5. Elton and Gruber, Modern Portfolio Theory and Investment Analysis, Latest Edition.
6. Bebczuk, R. N. (2003) Asymmetric Information in Financial Markets: Introduction and Applications. Cambridge University Press
7. Copeland, Weston and Shastri (2005). Financial Theory and Corporate Policy. 4th Edition.
8. Livingston, M. (1999). Money and Capital Markets. 3rd Edition (or later).
9. Fredric, S. Mishikin, Financial Markets Institutions and Money. Harper Collins College Publishers, Latest Edition.
10. William F. Sharpe & Gordon J., Investments 5th Ed, Prentice Hall, 1996

ECON-404 ISLAMIC FINANCE

The basis of Islamic Finance; An Introduction to Islamic Finance; Islamic Finance - a historical perspective; Islamic Law of Contracts; Financial Contracts and Techniques Applied by Islamic Banks; Modes of Shari'ah-Compliant Transactions; Modes of Islamic Finance and Comparison with Conventional Financing modes; Risk and Return in Classical Islamic law; Islamic Asset and Fund Management; Sukuk Market; Financial Statements; Islamic Corporate Governance; Islamic Insurance; Takaful Element; Islamic Finance today - Challenges and Opportunities.

Recommended Books:

1. Kettell, Brian, Introduction to Islamic banking and finance; John Wiley & Sons, 2011, ISBN 978-0-470-97804-7
2. M. A. El-Gamal, Islamic Finance: Law, Economics, and Practice (2008)
3. Mufti Muhammad Taqi Usmani, An Introduction to Islamic Finance © Arshad A. Ahmed, Esq. and Abrar A. Hussain, Esq. (1998) [available online at <<http://islamicfinancenews.files.wordpress.com/2009/09/an20introduction20to20islamic20finance.pdf>>].
4. Any Latest Book covering above contents can be recommended.

ECON-406 INTERNATIONAL FINANCE

Introduction of International Finance; International Financial Markets: The basis of the foreign exchange market; Organization of the market; Exchange rate systems; The international character of the foreign exchange market; Exchange risk; Forward exchange; Covered interest arbitrage; Balance of Payments Problem: Balance of payments accounts. Autonomous and accommodating items; Disequilibria in balance of payments of corrective measures; Price Adjustment Mechanism; The partial equilibrium model; Price elasticities of demand for imports and exports; The J-Curve Effect; Theory of Exchange Rate Determination: Determination of fixed and flexible exchange rates; Debate



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on fixed and flexible exchange rates; Devaluation and its effects; appreciation and depreciation; Expenditure switching policies; Elasticity and absorption approaches to devaluation and their synthesis; Monetary approach to balance of payment; Income Adjustment Mechanism: Income determination in an open economy. The foreign trade multiplier; Foreign repercussions; National income and the balance of payments; The world Debt Crisis; Fiscal and Monetary Policies for internal and external balance; Flexible versus Fixed Exchange Rates: Models; The Monetary Approach: Basic Model, Policy Implications, PPP Theory; The International Monetary System.

Recommended Books:

1. Miltiades Chacholiades, Principles of International Economics New York, McGraw Hill Co. 1981.
2. Maurice D. Levi, International Finance, 5th edition, Routledge, 2009.
3. Sodersten, B.O. , International Economics, New York, Harper and Row, Latest Edition.
4. Caves, R.E. & Jones, R.W World Trade and Payments. An Introduction Boston, Little, Brown, and Company, (Inc.) Latest Edition.
5. James C. Ingram, International Economics 3rd ed. John Wiley & Sons, 1994.
6. Grubel, Herbert G., International Economics Homwood Illinois, Richard D. Irwin (Ins), Latest

ECON-408 RESEARCH METHODS IN ECONOMICS

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 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, 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 research report.

Recommended Books:

1. Zikmund, Business research methods, Latest Edition.
2. Uma Sckaran, Business research methods, Latest Edition.
3. Newman, Research methods in Social Sciences, Latest Edition.



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OPTIONAL COURSES

ECON-412 THESIS/RESEARCH PROJECT

The approval of the thesis (Title of the thesis, name of supervisor and name of examiner) would be obtained from the Board of Studies in Economics and through other concerned bodies of the university before the commencement of the semester.

ECON-414 APPLIED ECONOMICS

Basic Data Handling Techniques and Descriptive data analysis, Estimation of econometric models, hypothesis testing and diagnostics and solutions of econometric problems, Diagnostics and estimation of univariate time-series models, Diagnostics and estimation of multivariate time-series models (VAR models, causality, impulse response analysis, variance decomposition and co-integration), Survey data analysis of household consumption, Survey data analysis of manufacturing production, Survey data analysis of agricultural production, Analysis of macroeconomic and financial time-series data with applications in consumption, investment, budget and international trade, money, inflation, interest rate, exchange rate and stock prices, Writing an empirical project/research.

Recommended Books:

1. Gary Koop, 2004, Analysis of Economic Data, John Wiley & Sons Ltd.
2. Thomas Sowell, 2009, Applied Economics, Revised and enlarged Edition, Basic 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

1. Dr Safdar Butt. Corporate Governance, Latest Edition.
2. A. C. Fernando. Corporate Governance (Principles, Policies and Practices)
3. Christine A. Mallin .Corporate Governance 2nd edition, , Oxford University Press.
4. Adrian Cadbury. Corporate Governance and Chairmanship a personal view. Oxford University Press.



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ECON-418 GLOBALIZATION AND ECONOMIC INTEGRATION

Introduction and Overview; The Previous Waves of Globalization: The First Wave of Globalization (The end of the XIX century and the beginning of the XX Century), The Second Wave of Globalization (1945-80's); The Present Wave of Globalization; The forces that drive the trade flows: the role of the WTO; Regional Economic Integration Processes; Global Capital Flows: FDI flows, Portfolio Flows and others, Financial Crises: Banking and Balance of Payments Crisis; Multinational Enterprises; The Labour Markets; Globalization and Culture; Globalization and Environment: A new challenge; Globalization and Politics

Recommended Books:

1. Brawley, Mark R.; (2002) "The Politics of Globalization" Broadview Press. 2002.
2. Deardorff, Alan V.; Stern, Robert M. (2000) "What the Public Should Know about Globalization and The World Trade Organization" The University of Michigan, Discussion Paper No 460
3. Knox, Paul; Agnew, John; McCarthy, Linda (2003) "The Geography of the World Economy" (4th Ed). Oxford University Press, 2003.
4. Lindert, Peter H.; Williamson, Jeffrey G.(2001) "Globalization and Inequality: A Long History" The World Bank.
5. Masson, P.(2001) "Globalization: Facts and Figures" IMF Policy Discussion Paper PDP/01/4.
6. Ohmae, Kenichi (2005) "The Next Global Stage: Challenges and Opportunities in Our Borderless World" Wharton School Publishing.
7. PNUD (2004) "Globalization and Cultural Choice" in the Human Development Report 2004.
8. Schaeffer, Robert K. (2005) "Understanding Globalization: The Social Consequences of Political, Economic, and Environmental Change" Rowman & Littlefield Publishers, Inc.; 3 edition (July 28, 2005)
9. Schmukler, Sergio; Zoido-Lobaton, Pablo (2001) "Financial Globalization: Opportunities and Challenges for Developing Countries" The World Bank 2001.

ECON-420 TRANSPORT ECONOMICS

Introduction of Transport Economics; The Transport System: Operator Cost Structures, Review of Optimization, Firm Behavior: Production & Technology, Firm Behavior: Profit Maximization & Production. Economies, Firm Behavior: Cost Minimization, Firm Behavior: Monopolies & Price Discrimination, Consumer Behavior: Utility Maximization, Consumer Behavior: Demand Relationships, Welfare Theory: Consumer Surplus & Other Measures, Market Imperfections: Negative Externalities, Roadway Congestion & Pricing TBA, Value of Time TBA, Econometrics & Statistical Applications, Project Presentations

Recommended Books:

1. Kockelman and Chen's (2012), *The Economics of Transportation Systems: A Reference for Practitioners*.
2. Small and Verhoef's (2007), *Economics of Urban Transportation* (2007)
3. Sergio Jara-Díaz's (2005), *Transport Economic Theory* (2005).



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ECON-422 ENERGY ECONOMICS

Introduction to Energy Economics and the interrelationship between energy, the economy, society, and the environment, Natural resource economics: static criteria and dynamic criteria for efficient allocation, Techniques for overall cost determination, marginal cost determination, life cycle cost, economic comparison of energy technologies, financial analysis of renewable energy projects, financial vs. economic analysis, Consumer behavior and demand elasticity, Procedure to determine the best economic choice of energy technology for specific applications, Environmental impacts of conventional and renewable technologies, Environmental Impact determination and economic of pollution control, expressing Impacts in economic and social terms.

Recommended Books

1. J.M. Griffin, and H.B. Steele (1985): Energy Economics and Policy, Academic Press
2. Tom Tietenberg (1992), Environment and Natural Resource Economics, second edition Academic Press.
3. Any other latest book covering above contents can be recommended.

ECON-424 ENVIRONMENT 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 principle 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:

1. Barry C, Field , Environmental Economics, An Introduction, McGraw Hill
2. Miller Alan, An Introduction to ecology, Ecoethics and Economics, Rowman and Allen held Lanham Md, 1991
3. Baumal William, Economics, Environmental policy and quality of life, Prentice Hall, Englewood Cliffs
4. McKee David, Energy the Environmental public Policy, Issues for the 1990's. Praeger, New York 1991



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ECON-426 HISTORY OF ECONOMIC THOUGHT

Introduction; Ancient and Medieval Economic Thought; Mercantilism; Harbingers of Adam Smith; Adam Smith I: Value Theory; Adam Smith II: Growth and Income Distribution; Adam Smith III: Political Economy and Ideology; Malthus and Ricardo I: Population and Scarcity; Malthus and Ricardo II: The Theory of Value and Distribution; Malthus and Ricardo III: Accumulation and Gluts; Karl Marx I: Value Theory, Karl Marx: Accumulation, Growth and Crises.

Recommended Books

1. Backhouse, Roger, A History of Modern Economic Analysis. Oxford, Blackwell, 1985.
2. Blaug, Mark, Economic Theory in Retrospect. Fifth edition. Cambridge, C.U.P., 1996.
3. Deane, Phyllis, The Evolution of Economic Ideas. Cambridge: Cambridge U.P., 1978.
4. Dobb, M. H., Theories of Value and Distribution since Adam Smith. Cambridge, C.U.P., 1973.
5. Ekelund, Robertb and Hebert, Robertf, History of Economic Thought and Method. New York, McGraw-Hill, 1990 (3rd edition).

ECON-428 HUMAN RESOURCE MANAGEMENT

Human Resource Management: Introduction, Scope, Importance. HRD-Concept, Need, Human Resource, Planning-Concept, Process, Linking HRP with Strategic Planning, Job Evaluation-Process, Methods, Job Analysis- Job description and Job specification, Human Resource Procurement- Recruitment, Process, Methods of recruitment: Internal and external, Selection-Process, Selection tests: Types, Interview: Types, Induction or Orientation; Human Resource Development: Training- Phases, Need assessment, Objectives, Methods: On the job methods and off the job methods, Evaluation of training program; Performance Appraisal- Introduction, Uses, Process, Methods: Traditional and modern methods. Internal Mobility- Transfer, Promotion, Demotion. Discipline: Negative and positive discipline, Grievance: Meaning, types, handling, prerequisites Model Grievance; handling procedure; Employee Compensation- Purpose, Importance, Components: Primary and secondary, Rewards: Monetary and non monetary. Workers Participation in Management: Empowerment, Meaning, Types of WPM, Employee Exit; Human Resource Audit

Recommended Books:

1. Rao V.S.P.: Human Resource management, Excel Publication, New Delhi.
2. Mamoria C.B.: Personnel Management, Himalaya Publication House.
3. K.Aswathappa : Human Resource Management, Tata McGraw Hill.
4. Monappa Arun & Saiyadain: Personnel Management, Tata McGraw Hill.
5. Any other latest book covering above course outlines.



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ECON-430 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:

1. C.H.Krikpartrick, Industrial Structure and Policy in Less Developed Countries, English Language Book Society, 1999.
2. Rajat K. Ray, Industrialization in India, Growth and Conflict in the Private Corporate Sector 1914-47 Oxford University Press, Delhi, India. 1982.
3. Stephen R. Lewis, Economic Policy and Industrial Growth in Pakistan: PIDE 1969.
4. K.L.Gupta, Industrialization and Employment in Developing Countries, A Comparative Study: Routledge, UK, 1999.

ECON-432 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:

1. Comith Stephen, (2003), Labour Economics*, Routledge Publishers.
2. Bruce, Kaufman; c. Kaufman, Julie L; Hotchkiss, (2002), Economics of Labour Markets, Thomson Publisher.



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3. Current Issues in Labour Economics*, (1989), Palgrave Mcmillan.
4. Reynolds, Labor Economics and Labor Relations.
5. Grley, Ashenfelter (edt), Layard, P. R. G, (cdt), Hand Book of Labour' Economics, Elsevier Science Pub. Co. (1986).

ECON-434 MANAGERIAL ECONOMICS

Introduction to Managerial Economics, Decision Making Under Risk and Uncertainty: Demand Theory: Concepts and Estimation; Production and Cost Analysis; Pricing Analysis and Decisions: A Review of Market Structures and Basic Pricing Models; Limit Pricing Models; Managerial Theories of the Firm: Baumol's Theory of Sales Revenue Maximization; Linear Programming; Capital Budgeting.

Recommended Books:

1. Douglas, E. J., Managerial Economics Prentice Hall, 1996.
2. Keat and Young, Managerial Economics Maxwell 1998.
3. Petersen and Lewis, Managerial Economics, Maxwell 1996.
4. Salvatore, D., Managerial Economics^{3rd} Ed, McGraw Hill.
5. Koutsoyiannis, A., Modern Microeconomics.

ECON-436 POPULATION ECONOMICS

The Nature of Population Study; Analytics; Demographic Research in Action; Variables, The Sources of Information for Demographers; The Growth of Population; The Distribution of Population; Mortality; Fertility; Migration; International Migration; Internal Migration; The Composition of Population; The Socioeconomic Effects of Population Change; Population Policy.

Recommended Books:

1. Hauser, P. M., and O.D. Duncan, The Study of Population, Chicago: University of Chicago Press, 1964.
2. Nam, C.B. The Progress of Demography as a Scientific Discipline. Demography 16 (November 1979).
3. Thompson, W.S, and D.T. Lewis, Population Problems, 5th Ed., New York: McGraw-Hill, 1965.
4. Johannes Overbeek, University of Maine at Orono, Population An Introduction, Harcourt Brace Jovanovich, Inc. New York, San Diego, Chicago, San Francisco, Atlanta London, Sydney, Toronto.
5. Gaugh, M.E., A Geography of Population and Settlement. Dubuque: Broman, 1970.
6. Miller, Z.L., The Urbanization of Modern America: A Brief History, New York, Harcourt Brace Jovanovich, 1973.

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Overview of project appraisal and capital budgeting; Capital investments: Importance & Difficulties; Types of capital investments; Phases of capital budgeting; Levels of decision making; Facets of project analysis; Feasibility study; Objectives of capital budgeting; Common weaknesses in capital budgeting; Strategy & Capital Allocation; SWOT/WOTS UP Analysis; Strategic Planning & Capital budgeting; Generation of ideas; Porter Model; Different types of strategies; Scouting for project ideas; Preliminary screening; Project rating index; Credit rating of projects and financing proposals; Sources of positive net present value; Analysis: Situational Analysis, Collection of Secondary Information, Market Survey, Demand Forecasting, Market Planning, Technical Analysis, Manufacturing Process / Technology, Product Mix, Plant Capacity, Location and Site, Machineries and Equipment, Structures and Civil works, Environmental Aspects, Project Charts and Layouts, Schedule of Project Implementation, Need for Considering Alternatives, Financial Estimates and Projections; Project Selection, Time Value of Money, Investment Criteria; Project Cash Flows, Cash Flow Estimations, Cost of Capital & Capital Budgeting Techniques, Risk Analysis of Single Investments, Advanced Techniques, Risk Analysis, Firm Risk & Market Risk, Portfolio Related Risk Measures, Portfolio Theory and Capital Budgeting, CAPM and capital Budgeting, Choice Between Mutually Exclusive Projects of Unequal Life, Inflation and Capital Budgeting, SCBA (basics only), Judgmental, Behavioral, Strategic and Organizational Considerations; Decision tree analysis; Pareto Analysis; Financing of Projects – Capital Structure, Different Forms of Financing, Raising Venture Capital, Raising Capital in International Markets, Financing Infrastructure Projects; Project Implementation and Management – Project Planning, Project Control and Implementation, Network Techniques for Project Management, Development of Project Network, Time Estimation, Determination of the Critical Path, Scheduling when Resources are Limited; PERT Model; CPM Model, Network Cost System, Project Review and Administrative aspects, Control of In-Progress Projects, Post-completion Audits; International project management

Recommended Books:

1. Curry, S. and J. Weiss, Project Analysis in Developing Countries. New York: St. Martin's Press.
2. Prasanna Chandra - Projects Planning, Analysis, Financing, Implementation & Review – Tata McGraw Hill.
3. Little, I. M. D. and J. Mirrlees, Project Appraisal and Planning for Developing Countries, London: Heinman.
4. Roemer, M. and Stern, J. 1975. The Appraisal of Development Projects: A Practical Guide to Project Analysis with Case Studies and Solutions. New York: Praeger Publishers.
5. Narendra Singh – Project Management.
6. Jach R. Meredith Samuel .J. – Project Management
7. Vasanth Desai, Project Management – Himalaya Publishing house.
8. P.S.Nambiar – All About Finance- Puliani & Puliani.
9. Harold Kerzner, Project Management –CBS Publishers & Distributors.
10. Institute of Bankers, Pakistan, Financial Management and Project Appraisal



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