



University of Chitral یونیورسٹی آف چھترار
BECOME WHAT YOU WANT TO BE



SCHEME OF STUDIES BS ECONOMICS 04 YEARS PROGRAM

**Department of Economics
University of Chitral**



Overview of The BS Economics Program:

BS Economics is a four years' degree program comprising of eight regular semesters.

Admission Eligibility Criteria for BS Economics (04 Years Program): Students with degree/ certificate of FSc/ FA/ D Com/ A-levels or equivalent intermediate (12 years) qualification with at least 2nd division (45% marks) from a recognized institute are eligible to apply.

Assessment/ Evaluation:

-Midterm Exam 30%

-Assignments/ Presentations/ Quizzes/ Attendance/ Laboratory etc. 20% (HoD/ Teacher concerned will determine the distribution as per their requirement)

-Final term 50%

Academic Requirement for the Award of Degree

Successful completion of 130 credit hours spread over 44 courses (including research thesis/ project) in eight regular semesters.

CGPA Requirement for the award of Degree:

Minimum requirement for the award of 4-year BS degree shall be a CGPA of 2.00 on a scale of 4.00

Specialization:

Currently, the department is offering specialization in mainstream Economics with no commitment to any specific area. Students are taught the core economic theories with applications. They also study a variety of courses from different fields of Economics.



SCHEME OF STUDIES FOR BS ECONOMICS (04 YEARS)

DIVISION OF COURSES		
COMPULSORY COURSES	COURSES	CREDIT HOURS
Common Courses (with no choice)	8	22
General Courses (Diversification courses)	8	24
Compulsory Courses for BS Economics (A):	16	46
SPECIFIC COURSES For BS Economics		
Foundation Courses	9	27
Major Courses	11	33
Optional Courses	8	24
Discipline Specific Courses for BS Economics (B):	28	84
Total Courses for BS Economics (A+B):	44	130

Total numbers of Credit hours	130
Duration	04 (Four) Years
Semester duration	16-18 Weeks
Semesters	08 (Eight)
Course Load per Semester	15-18 Credit Hours
Number of courses per semester	4-6



SPLIT-UP OF COURSES

BS Economics is a four years' degree program comprising of eight regular semesters. Common and General Courses are taught in the first two years (04 semesters). Semester wise split-up of the courses are given below.

COMPULSORY COURSES									
Courses	Semesters								Total Courses
	1st	2nd	3rd	4th	5th	6th	7th	8th	
Common Courses (Compulsory)	3	3	1	1	-	-	-	-	8
General Courses (Diversification)	2	2	3	1	-	-	-	-	8
DISCIPLINE SPECIFIC COURSES									
Courses	Semesters								Total Courses
	1st	2nd	3rd	4th	5th	6th	7th	8th	
Foundation Courses	1	1	2	3	2	-	-	-	9
Optional Courses	-	-	-	-	1	1	2	4	8
Major Courses	-	-	-	1	3	3	3	1	11
Total Courses	6	6	6	6	5	5	5	5	44



List of Compulsory Courses (Common to all BS Programs) (22 Credit Hours)

Functional English, Islamic Studies, Ethics, Linear Algebra, English Comprehension & Composition, Introduction to Information & Communication Technologies, Technical Writing & Presentation Skills, Pakistan Studies, Communication Skills.

List of General Courses (Diversification Courses) (27 Credit Hours)

Fundamentals of Sociology, Principles of Political Science, Fundamentals of Geography, General Science, Principles of Management, Foundation of Education, Introduction to International Relations, Introduction to Logic, Principles of Marketing, Principles of Accounting, Introduction to Philosophy, Introduction to Law, Principles of Psychology, Introduction to Indo-Pak History.

List of Foundation Courses (24 Credit Hours)

Principles of Microeconomics, Principles of Macroeconomics, Intermediate Microeconomics, Statistics I, Intermediate Macroeconomics, Statistics II, Calculus, Basic Econometrics, Mathematical Economics.

List of Major Courses (33 Credit Hours)

Microeconomic Theory, Research Methodology, Macroeconomic Theory, Advanced Econometrics, Public Finance, Monetary Economics, International Economics, Issues in Pakistan Economy, Development Economics, Financial Economics, Issues in World Economy, Dynamic Optimization.

List of Optional (Elective) Courses (24 Credit Hours)

Environmental Economics, History of Economic Thought, Poverty and Income Distribution, Applied Economics, Economics of Education, Cost Benefit Analysis, Population Economics, Development Policy, Energy Economics, Political Economy, Health Economics, Industrial Organization, Islamic Finance, Labour Economics, Research Project (THesis-688).



**Semester-wise Split Up of Courses for BS Economics (4-YEAR)
(YEARS 1-2)**

YEAR 1- First Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-311	Principles of Microeconomics	3(3+0)	Foundation Course
ECON-312	Functional English	3(3+0)	Compulsory Course
ECON-313	Linear Algebra	3(3+0)	Compulsory Course
ECON-314	Fundamentals of Sociology	3(3+0)	General Course
ECON-315	Principles of Political Science	3(3+0)	General Course
Any one of the following courses			
ECON- 316	Islamic Studies	2(2+0)	Compulsory Course
ECON- 317	Ethics	2(2+0)	Compulsory Course
Total Credit Hours		17(17+0)	

Second Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-321	Principles of Macroeconomics	3(3+0)	Foundation Course
ECON-322	English Comprehension & Composition	3(3+0)	Compulsory Course
ECON-323	Pakistan Studies	2(2+0)	Compulsory Course
ECON-324	Introduction to Information and Communication Technologies	3(3+0)	Compulsory Course
ECON-325	Principles of Management	3(3+0)	General Course
Any one of the following courses			
ECON-326	Introduction to Law	3(3+0)	General Course
ECON-327	Fundamentals of Geography	3(3+0)	General Course
Total Credit Hours		17(17+0)	



YEAR 02 - Third Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-431	Intermediate Microeconomics	3(3+0)	Foundation Course
ECON-432	Statistics – I	3(3+0)	Foundation Course
ECON-433	Technical Writing & Presentation Skills	3(3+0)	Compulsory Course
ECON-434	Foundation of Education	3(3+0)	General Course
ECON-435	Introduction to International Relations	3(3+0)	General Course
Any one of the following courses			
ECON-436	Introduction to Philosophy	3(3+0)	General Course
ECON-437	General Science	3(3+0)	General Course
Total Credit Hours		18 (18+0)	

Fourth Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-441	Intermediate Macroeconomics	3(3+0)	Foundation Course
ECON-442	Statistics – II	3(3+0)	Foundation Course
ECON-443	Communication Skills	3(3+0)	Compulsory Course
ECON-444	Introduction to Logic	3(3+0)	General Course
Any one of the following courses			
ECON-445	Principles of Marketing	3(3+0)	General Course
ECON-446	Calculus	3(3+0)	Foundation Course
Any one of the following courses			
ECON-447	Issues in World Economy	3(3+0)	Major
ECON-448	Energy Economics	3(3+0)	Optional
ECON-449	Economics of Education	3(3+0)	Optional
Total Credit Hours		18 (18+0)	



YEAR 03- Fifth Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-551	Microeconomic Theory	3(3+0)	Major
ECON-552	International Economics	3(3+0)	Major
ECON-553	Development Economics	3(3+0)	Major
ECON-554	Basic Econometrics	3(3+0)	Foundation Course
ECON-555	Mathematical Economics	3(3+0)	Foundation Course
The following subject may optional			
ECON- 556	Poverty and Income Distribution	3(3+0)	Optional
Total Credit Hours		15 (15+0) 18 (18+0)	

Sixth Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-561	Macroeconomic Theory	3(3+0)	Major
ECON-562	Public Finance	3(3+0)	Major
ECON-563	Monetary Economics	3(3+0)	Major
ECON-564	History of Economic Thought	3(3+0)	Optional
ECON-565	Environmental Economics	3(3+0)	Optional
Total Credit Hours		15 (15+0)	

YEAR 04 - Seventh Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-671	Advanced Econometrics	3(3+0)	Major
ECON-672	Research Methodology	3(3+0)	Major
ECON-673	Labour Economics	3(3+0)	Optional
Any two of the following courses			
ECON-674	Financial Economics	3(3+0)	Major
ECON-675	Dynamic Optimization	3(3+0)	Major
ECON-676	Islamic Finance	3(3+0)	Optional
ECON-677	Industrial Organization	3(3+0)	Optional
Total Credit Hours		15(15+0)	



Eighth Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-681	Cost Benefit Analysis	3(3+0)	Optional
ECON-682	Population Economics	3(3+0)	Optional
ECON-683	Issues in Pakistan Economy	3(3+0)	Major
Any two of the following courses or Thesis			
ECON- 684	Applied Economics	3(3+0)	Optional
ECON-685	Development Policy	3(3+0)	Optional
ECON-686	Political Economy	3(3+0)	Optional
ECON-687	Health Economics	3(3+0)	Optional
Thesis- 689	Research Project/Thesis	6(0+6)	Optional
Total Credit Hours		15 (15+0) or 15 (9+6)	

Total Credit Hours of the Academic Program: 130-133

PRE-REQUISITES

- Functional English is pre-requisite for Technical Writing & Presentation Skills.
- English Comprehension & Composition is pre-requisite for Communication Skills.
- Statistics I is pre-requisite for Statistics II.
- Statistics I and Statistics II are pre-requisite for Basic Econometrics & Research Methodology.
- Principles of Microeconomics is pre-requisite for Intermediate Microeconomics.
- Principles of Macroeconomics is pre-requisite for Intermediate Macroeconomics & Monetary Economics.
- Basic Econometrics is pre-requisite for Advanced Econometrics & Applied Economics.
- Linear Algebra is prerequisite for Mathematical Economics.
- Mathematical Economics is pre-requisite for Dynamic Optimization.
- Intermediate Microeconomics is pre-requisite for Microeconomic Theory.
- Intermediate Macroeconomics is pre-requisite for Macroeconomic Theory.
- Development Economics is pre-requisite for Development Policy.



DEPARTMENT OF ECONOMICS
BS (04 YEARS) PROGRAM
COURSES, CONTENTS & RECOMMENDED BOOKS

YEAR 01- First Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-311	Principles of Microeconomics	3(3+0)	Foundation Course
ECON-312	Functional English	3(3+0)	Compulsory Course
ECON-313	Linear Algebra	3(3+0)	Compulsory Course
ECON-314	Fundamentals of Sociology	3(3+0)	General Course
ECON-315	Principles of Political Science	3(3+0)	General Course
Any one of the following courses			
ECON- 316	Islamic Studies	2(2+0)	Compulsory Course
ECON- 317	Ethics	2(2+0)	Compulsory Course
Total Credit Hours		17(17+0)	

ECON-311	PRINCIPLES OF MICROECONOMICS
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

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

Demand & Supply:

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

Elasticity of Demand & Supply:

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



- Elasticity & its applications

Consumer Behavior:

- Utility Analysis (Cardinal Approach)
- Marginal Utility
- Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility
- Consumer Equilibrium
- Ordinal Approach of Consumer Behavior
- Indifference Curves
- Features of Indifference Curves
- Budget Line
- Consumer Equilibrium
- Comparison between two approaches

Production and Costs

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

Market Structure:

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

RECOMMENDED BOOKS

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



ECON-312	FUNCTIONAL ENGLISH
PREREQUISITE	NIL

COURSE CONTENTS

- Semantics: antonyms, synonyms, homonyms – one word substitution
- (Syntax): traditional grammar, parts of speech, major word classes, further classifications (regular, countable; uncountable; singular; plural), pronouns, verbs, adjectives, adverbs, minor word classes: preposition, conjunctions, interjections, auxiliary verbs and determiners, kinds of verbs: finite and non-finite
- Syntax Modern Grammar – sentence structure, types of sentences based on function, mood, transformation, inversion of sentences, analysis of complex sentences, subject, Predicate, complements, direct and indirect objects, phrases, syntactical rules (subject and verb agreement), synthesis of sentences, clauses – types and functions
- Syntax: tense and voice: structure of tenses, function, conversion into negative and interrogative, active and passive voice and usage, punctuation
- (Narration): direct and indirect speech: rules of conversion,
- Structural words: Articles and usage, Discourse: composition and comprehension, precise writing.

RECOMMENDED BOOKS

- Eastwood, J (2005): Oxford Practice Grammar. UK: Oxford
- Martin & Wren (2007): High School, English Grammar & Composition.: S Chand and Co. Ltd: New Delhi
- Martinet & Thomson (1992): A practical English Grammar. Oxford University Press
- Swan, M (2005): Practical English Usage. UK: Oxford University Press
- Shah, Sayyid (2006): Exploring the world of English, Ilmi Kitab Khana: Lahore

ECON- 313	LINEAR ALGEBRA
PREREQUISITE	NIL

COURSE CONTENTS

Preliminaries

- sets and set operations
- Relations, functions and their properties
- number systems

Functions of one real variable

- Graphs
- Elementary types of functions: quadratic, polynomial, power, exponential, logarithmic
- Sequences and series
- Continuous functions: characterizations, properties with respect to various operations and applications



- Differentiable functions: characterizations, properties with respect to various operations and applications
- Second and higher order derivatives: properties and applications

Single-variable optimization

- Geometric properties of functions
- convex functions, their characterizations Applications
- local and global optima
- geometric characterizations, characterizations using calculus and applications

Integration of functions

- Areas under curves
- Indefinite integrals
- the definite integral

RECOMMENDED BOOKS

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

ECON-314	FUNDAMENTALS OF SOCIOLOGY
PREREQUISITE	NIL

COURSE CONTENTS

Introduction to Sociology

- Meaning, Definition and Scope of Sociology
- Utility/Importance of Sociology
- Sociology as Science, Relationship of Sociology with other Social Sciences

Society

- Meaning and Definition of Society
- Characteristics of society
- Types of society, basis of society

The Culture

- Definition of Culture, types of culture

Culture and Society

- Social and Cultural Change
- Characteristics of Culture

Methods of Study

- Cross Sectional Study
- Longitudinal Study
- Laboratory Study



- Field Study
- Observational Study

Social Stratification

- Definition of Social Stratification
- Types of Social Stratification
- Classes, Definition of Class, General Classification of Class, Sociological Classification of Class Caste
- Definition of Caste, Characteristics of Caste, Difference between Class and Caste

Social Mobility

- Definition of Mobility
- Types of Mobility, Horizontal Mobility, Vertical Mobility, Zero Mobility
- Territorial Mobility/ Geographical
- Different Factor Favorable to Social Mobility

Social Institutions

- Definition of Social Intuition
- Elements of Social Intuition
- Functions of Social Institution

Family Institution

- Definition of Family
- Characteristics of Family
- Types/Classification of Families
- Functions of Family Institution

Religious Institutions

- Definition
- Components of Religion, Beliefs, Symbols, Rituals, Sacred Objects
- Functions of Religion
- Religions of the World, Christianity, Judaism, Hinduism, Buddhism, Confucianism, Islam.

Political Institution

- Definition of Political Institution
- Structure of Political Institution
- Formal and Informal
- Main Branches of Government, Judiciary, Executives, Legislation.

Educational Institution

- Definition of Educational Institutions
- Structure of Educational Institutions
- Formal and Informal Education
- Educational System.

Sociology of Pakistan



- Characteristics
- Social Problems of Pakistan
- Poverty as social problem, Crime as social problem
- Pollution as Social Problem
- Population Explosion as Social Problem
- Urbanization as Social Problem.

RECOMMENDED BOOKS

- SOCIOLOGY-Paul B. Horton. And Chester L.Hunt. 6th Edition
- SOCIOLOGY- John Macionis
- DOWN TO EARTH SOCIOLOGY- James Henslin
- SOCIOLOGY C. N. Shankar Rao.

ECON- 315	PRINCIPLES OF POLITICAL SCIENCE
PREREQUISITE	NIL

Objectives:

The objective of this course is to introduce the students with the fundamentals of the subject of Political Science and prepare them for advanced studies in the forthcoming semesters. The very basic concepts and terminology commonly used in the further courses of studies are taught to make the students friendly with the subject.

Contents:

1. Definition, Nature, Scope and Sub-fields of Political Science.
2. Relationship of Political Science with other social sciences.
3. Approaches to the study of Political Science: Traditional and behavioral approach.
4. State: its origin and evolution; Western and Islamic concepts of State,
5. Nation and Sovereignty.
6. Basic concepts of Political Science: Power, Authority, Legitimacy
7. Organs of Government: Legislature, Executive, Judiciary.
8. Forms of State: Unitary, Federation, Confederation.
9. Forms of Government: democracy, Authoritarian Parliamentary, Presidential
10. Constitution: Definition, sources, kinds and amendments.

Note: Sub-fields of Political Science include: Political Philosophy/Theory; Comparative Politics; International Relations; Public Administration/ Public Policy; Local Government, etc.

Recommended Books:

1. Ahmad, Sheikh Bashir, Riyasat Jo Ilm (Sindhi meaning Science of State), Jamshoro, Institute of Sindhology, University of Sindh, 1985.
2. Haq, Mazher ul, Theory and Practice in Political Science, Lahore Bookland, 1996.
3. Ian Mackenzi (Ed.), Political Concepts: A Reader and Guide, Edinburgh, University Press, 2005.



4. Mohammad Sarwar, Introduction to Political Science, Lahore Ilmi Kutub Khana, 1996.



ECON-316	ISLAMIC STUDIES
PREREQUISITE	NIL

COURSE CONTENTS

Introduction to Quran Studies

- Basic Concepts of Quran
- History of Quran
- Uloom-ul -Quran

Study of Selected Text of Holly Quran

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

Study of Selected Text of Holly Quran

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

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

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

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

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

Introduction To Sunnah

- Basic Concepts of Hadith
- History of Hadith
- Kinds of Hadith
- Uloom-ul-Hadith
- Sunnah & Hadith
- Legal Position of Sunnah

Selected Study from Text of Hadith Introduction to Islamic Law & Jurisprudence

- Basic Concepts of Islamic Law & Jurisprudence
- History & Importance of Islamic Law & Jurisprudence
- Sources of Islamic Law & Jurisprudence
- Nature of Differences in Islamic Law



- Islam and Sectarianism

Islamic Culture & Civilization

- Basic Concepts of Islamic Culture & Civilization
- Historical Development of Islamic Culture & Civilization
- Characteristics of Islamic Culture & Civilization
- Islamic Culture & Civilization and Contemporary Issues

Islam & Science

- Basic Concepts of Islam & Science
- Contributions of Muslims in the Development of Science
- Quran & Science

Islamic Economic System

- Basic Concepts of Islamic Economic System
- Means of Distribution of wealth in Islamic Economics
- Islamic Concept of Riba
- Islamic Ways of Trade & Commerce

Political System of Islam

- Basic Concepts of Islamic Political System
- Islamic Concept of Sovereignty
- Basic Institutions of Govt. in Islam

Islamic History

- Period of Khlaft-E-Rashida
- Period of Ummayyads
- Period of Abbasids

Social System of Islam

- Basic Concepts of Social System of Islam
- Elements of Family
- Ethical Values of Islam

RECOMMENDED BOOKS

- Hameed ullah Muhammad, "Emergence of Islam", IRI, Islamabad
- Hameed ullah Muhammad, "Muslim Conduct of State"
- Hameed ullah Muhammad, 'Introduction to Islam
- Mulana Muhammad Yousaf Islahi,"
- Hussain Hamid Hassan, "An Introduction to the Study of Islamic Law" leaf Publication Islamabad, Pakistan.
- Ahmad Hasan, "Principles of Islamic Jurisprudence" Islamic Research Institute, International Islamic University, Islamabad (1993)
- Mir Waliullah, "Muslim Jurisprudence and the Quranic Law of Crimes" Islamic Book Service (1982)
- H.S. Bhatia, "Studies in Islamic Law, Religion and Society" Deep & Deep Publications



New Delhi (1989)

- Dr. Muhammad Zia-ul-Haq, "Introduction to Al Sharia Al Islamia" Allama Iqbal Open University, Islamabad (2001)

ECON-317	ETHICS
PREREQUISITE	NIL

COURSE CONTENTS

- 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

RECOMMENDED BOOKS

- Barsky, A. E. (2010): Ethics and Values in Social Works: An Interogative Approach to Comprehensive Curriculum, Oxford University Press, New York
- Cahn, S. M. (1998): Ethics: History, Theory and Contemporary Issues, Oxford University Press, New York
- MacKinnon, B. (2009): Ethics and Contemporary Issues, International Edition, Wadsworth,

Second Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-321	Principles of Macroeconomics	3(3+0)	Foundation Course
ECON-322	English Comprehension & Composition	3(3+0)	Compulsory Course
ECON-323	Pakistan Studies	2(2+0)	Compulsory Course
ECON-324	Introduction to Information and Communication Technologies	3(3+0)	Compulsory Course
ECON-325	Principles of Management	3(3+0)	General Course
Any one of the following courses			
ECON-326	Introduction to Law	3(3+0)	General Course
ECON-327	Fundamentals of Geography	3(3+0)	General Course
Total Credit Hours		17(17+0)	



ECON- 321	PRINCIPLES OF MACROECONOMICS
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

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

National Income Accounting

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

Components of Aggregate Demand

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

RECOMMENDED BOOKS

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



ECON-322	ENGLISH COMPREHENSION & COMPOSITION
PREREQUISITE	NIL

COURSE CONTENTS

- Comprehension skills: previewing, reading for main ideas, using context for vocabulary, scanning for details, making inferences, identifying exceptions, and referring to the passage.
- Basic grammar review: definition of a sentence, sentence structures, punctuation marks, modifiers (adjectives and adverbs), verb tense, subject verb agreement, article/determiner, word order, prepositions.
- Advanced sentence structures: misplaced modifiers, dangling modifiers, parallelism, sentence fragments, run-on sentences.
- Pre-writing techniques: free writing, note keeping, brain storming, mind mapping, journalistic questions, exercises for students.
- Paragraph writing: unity, topical sentence and supporting details, relevant exercises.
- Essay writing: characteristics, types, organization, common methods of beginning, cohesion, coherence, practice activities.
- Précis writing: need/importance, characteristics, do's and don'ts in précis writing, practice activities.
- Message composition: memo writing, email messages, CV/resume writing, cover letter
- Word Skills: vocabulary building, synonyms, antonyms, effective use of thesaurus, dictionary skills.
- Presentation skills: assessing the reason and receivers, delivering the presentation, gathering material, organization of data, use of appropriate language, use of graphs, figures, and visual aids, involving the audience

RECOMMENDED BOOKS

- Denise Pivarnik (2006): Kaplan AP English Language and Composition., Kaplan Publishing: New York
- John E Warriner (2009): English Composition and Grammar, Harcourt School publications.

ECON-323	PAKISTAN STUDIES
PREREQUISITE	NIL

Objectives



The course aims to:

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

Course Contents

Historical Perspective:

- Ideological rationale with special reference to Sir Syed Ahmed Khan, Allama Muhammad Iqbal and Quaid-e-Azam Muhammad Ali Jinnah
- Factors leading to Muslim separatism;

People and Land:

- Indus Civilization
- Muslim advent
- Location and geo-physical features.

Government and Politics in Pakistan:

Political and constitutional phases:

- Initial constitutional problems
- Objective Resolution
- BPC 1st report, criticism and withdrawal
- BPC 2nd Report, criticism and withdrawal
- Bogra Formula and constitutional crisis
- Establishment of 2nd Constituent Assembly and 1956 constitution
- Features of 1956 constitution
- Causes of failure of 1956 constitution and imposition of Martial Law of 1958
- 1962 constitution: salient features
- 1965 War and consequences
- The causes of abrogation of 1962 constitution
- 1970 Elections and political crisis
- The debacle of Bengal, causes and consequences
- 1973 constitution
- Nationalization policy of ZA Bhutto
- 1977 elections: political crisis and consequent Martial Law
- Islamization of Gen. Zia ul Haq
- Restoration of 1973 constitution with 8th amendment

Contemporary Pakistan:

- Economic institutions and issues
- Society and social structure
- Ethnicity
- Political dangers and economic problems: CPEC as survival tool.



Books Recommended

- Zaidi A.S. 2000. Issue in Pakistan's Economy. Karachi: Oxford University Press.
- Rafique A. M. 1998. Political Parties in Pakistan, Vol. I, II & III. Islamabad: National Institute of Historical and cultural Research.
- Safdar, M. 1994. Pakistan Political Roots & Development. Lahore.
- Burke, S.M., Ziring L. 1993. Pakistan's Foreign policy: An Historical analysis. Karachi: Oxford University Press.
- Noor ul Haq. 1993. Making of Pakistan: The Military Perspective. Islamabad: National Commission on Historical and Cultural Research.
- Waseem, M. 1987. Pakistan Under Martial Law, Lahore: Vanguard.
- Javed, B. S. 1980. State and Society in Pakistan.
- Ali, K. (1977). *A new history of Indo-Pakistan, since 1526*. Aziz Publishers.
- Khan, H. (2005). *Constitutional and political history of Pakistan*. Oxford University Press, USA.

ECON-324	INTRODUCTION TO INFORMATION & COMMUNICATION TECHNOLOGIES
PREREQUISITE	NIL

COURSE CONTENTS

Basic of Computers

- Introduction and history of computers
- Generations of Computer
- Types of computers (analog, digital, hybrid)
- Classification of Computer (Mainframe Computer, Mini Computer, Super Computer & Micro Computer)
- Block diagram of Computer System.

Parts of the Computer System

- Hardware (Essential Computer Hardware (Processor, Memory, Input Devices, Output Devices & Storage devices)
- Software
- Data
- User

Processing Unit

- Data Processing Techniques
- Manual Data Processing
- Electronic Data Processing
- Central Processing Unit (CPU)



- ALU and Control Unit
- Buses and Ports

Computer Memory/ Storage

- Memory and types
- Primary/Internal memory (RAM & ROM)
- Cache Memory and Registers
- Units of Computer Memory (Bit, Byte, KB, MB, GB, TB)
- Secondary Storage
- Magnetic Devices
- Optical Devices.
- Solid State Devices

Input Devices

- Keyboard, Mouse, Scanner, Digital Camera

Output device

- Monitor (CRT, LED, LCD), Printer, Speaker

Software

- System software
- Operating system
- Application software
- General purpose and Special purpose Software

Networking Basic Concepts

- Computer Network (LAN & WAN) and its advantages
- Server Based Network and Peer to Peer Network

Data Communication and Data Communication System (DCS)

- Components of DCS (Sender, Receiver, medium, Message & Protocol)

The Internet & Internet Services

- The World Wide Web
- Electronic mail
- File Transfer
- Chat
- Online Services
- Instant Messaging
- Web Browsers, URL, Web Searching/ Browsing, Search Engine
- Social Networking Ethics, Cyber Crime and Types

Productivity Software/ Introduction to:

1. Microsoft Word (Beginner's Level)
2. Microsoft Excel (Beginner's Level)
3. Microsoft Power Point (Beginner's Level)



RECOMMENDED BOOKS

- Introduction to Computers by Peter Norton, 6th International Edition (McGraw HILL)
- Using Information Technology: A Practical Introduction to Computer & Communications by Williams Sawyer, 6th Edition (McGraw HILL)
- Computers, Communications & information: A user's introduction by Sarah E. Hutchinson, Stacey C. Swayer
- Fundamentals of Information Technology by Alexis Leon, Mathewsleon Leon press

ECON- 325	PRINCIPLES OF MANAGEMENT
PREREQUISITE	NIL

COURSE CONTENTS

An Overview of Management

- Definitions of Management
- Characteristics of Management
- Difference between Management and Administration.

Functions of Management

- Functions a brief Treatment
- Planning
- Organizing
- Staffing
- Directing
- Controlling
- Coordination.

Principles of Management

- Taylor's Principles
- Fayol's Principles
- General Principles
- Importance and Scope of Management.

Planning

- Definition, Nature and Characteristics
- Importance of Planning
- Limitations of Planning
- Essentials of a good Plan
- Steps in Planning Process
- Types of Planning.

Decision Making



- Meaning and Elements of Decision Making
- Importance and Process of Decision Making
- Salient Features of a good or an Effective Decision
- An Effective Decision Making.

Organizing

- Nature and Importance of Organization
- Steps in the Process of Organization
- Formal and Informal Organization
- Principles of Organization.

Communication

- Definition of Communication
- Process of Communication
- Importance of Communication

Staffing

- Definition of Staffing
- Sources of Recruitment
- Steps in Selection Process
- Orientation or Induction

Directing / Direction

- Definition, Nature, and Importance
- Principles & Techniques.

Leadership

- Definition, Traits / Qualities of a Successful Leader
- Leadership Styles
- Function of Leadership.

Controlling

- Definition of Controlling
- Characteristics of Controlling
- Objectives of Controlling

RECOMMENDED BOOKS

- Principles and Practice of Management 1998 Edition, Terry, Prentice Hall USA.
- Practice of Management, 1997 Edition P.F. Duck Ker, Macmillan, London.
- Fundamentals of Management 2004 Edition, Prof. Fazli Wahid IBMS/CS Agricultural University Peshawar.

ECON-326	INTRODUCTION TO LAW
PREREQUISITE	NIL

COURSE CONTENTS



A. Definition of Law and Schools of law

a. The Nature of Law

1. The purpose of legal theory
2. Law as the Dictate of Reason: Natural Law
3. Law as the Command of Sovereign: Imperative Law
4. Law as the Practice of the Court: Legal Realism
5. Law as a System of Rules
6. International Law
7. Law and Fact
8. Constitutional Law

b. The Sources of Law

1. Legal and Historical Source
2. Legislation
3. Precedent
4. Custom

c. Legal Concept

1. Legal Rights
2. Ownership
3. Possession
4. Persons
5. Titles
6. Liabilities
7. The Law of Property
8. The Law of Obligations
9. The Law of Procedure

d. The Administration of Justice

1. Necessity of Administration of Justice
2. Civil and Criminal Justice
3. The Purpose of Criminal Justice: Punishment
4. Civil Justice: Primary and Sanctioning Rights

Recommended books

- Introduction to Law/ English Jurisprudence by John Solmond, John Austin, PLD Publisher.
- Introduction to Law by Imran Ahsan Khan Niyazee, ALSI Publishers.

ECON-327	FUNDAMENTALS OF GEOGRAPHY
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

- Definitions, scope, and branches of Geography



- Basic geographic concepts
- Themes and traditions of Geography
- Tools of Geography

The Universe

- Galaxies and solar system

The Earth as a planet

- Celestial positions, its shape and size
- Rotation, revolution, and related phenomena

Spheres of the Earth

- Lithosphere
- Atmosphere
- Hydrosphere
- Biosphere

Man-environment interaction

- Population
- Major Economic activities
- Pollution

Comprehension of atlases, map reading skills, location of places, features and relevant work related to topics of the theoretical section

RECOMMENDED BOOKS

- Christopherson, R. W. (2009) Geo systems: An introduction to Physical Geography, Pearson Prentice Hall, New Jersey.
- Arbogast, A. F. (2007) Discovering Physical Geography, John Wiley and Sons, London.
- Monkhouse, F. J. (1996) Principles of Physical Geography, Hodder & Stoughton, London.
- Scott, R. C. (1996) Introduction to physical geography, West Publishing Co, New York
- Srishti, P. L. (2006): A Textbook of Physical Geography.



YEAR 02 - Third Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-431	Intermediate Microeconomics	3(3+0)	Foundation Course
ECON-432	Statistics – I	3(3+0)	Foundation Course
ECON-433	Technical Writing & Presentation Skills	3(3+0)	Compulsory Course
ECON-434	Foundation of Education	3(3+0)	General Course
ECON-435	Introduction to International Relations	3(3+0)	General Course
Any one of the following courses			
ECON-436	Introduction to Philosophy	3(3+0)	General Course
ECON-437	General Science	3(3+0)	General Course
Total Credit Hours		18(18+0)	

ECON-431	INTERMEDIATE MICROECONOMICS	
PREREQUISITE	ECON-311	PRINCIPLES OF MICROECONOMICS

COURSE CONTENTS

Introduction

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

Consumer Theory

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

Theory of Demand and Supply

- Income Consumption Curve and Engel Curves
- The Price Consumption Curve and the Demand Curve
- Derivation of Demand Curve



- Demand Function
- Supply Function
- Supply and Demand Equilibria
- Comparative Statics
- The Inverse Demand Function.

Producer Theory

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

Markets Analysis

- Perfectly Competitive Markets: Analysis and Application
- Short Period Analysis (equilibrium cases, supply curve of firm)
- Long Period Analysis (equilibrium of firm, supply curve of industry)
- Monopoly Markets: Analysis and Application
- Short Period Analysis (equilibrium cases, why no supply curve of firm)
- Long Period Analysis (equilibrium of firm, sub-optimum, optimum and super-optimum cases)
- Price Discrimination (concept, need, possibility, forms, and degrees of price discrimination)
- Monopolistic Competition: Analysis and Application
- Short Period Analysis (equilibrium cases)
- Long Period Analysis (equilibrium of firm)
- Oligopoly: Analysis and Application
- Introduction to Cournot Model, Bertrand Model, Stackelberg Model, Sweezy's Kinked Demand Model

RECOMMENDED BOOKS

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



ECON- 432	STATISTICS-I
PREREQUISITE	NIL

COURSE CONTENTS

What is Statistics?

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

Collection and Presentation of data

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

Numerical Descriptive Measures

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

Probability

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

Random Variables and Probability Distributions

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

Time Series and Forecasting

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

RECOMMENDED BOOKS

- Basic Statistics for Business and Economics by EARLK. BOWN AND MARTIN STARR
- Probability and Statistics by M.R. Spiegel, J.L. Schiller, and R.L., Sirinivasan (2000), 2nd edition Schaums Outlines Series. McGraw Hill. N.Y.
- Statistics for Management, Richard I. Levin, and David S. Rubin, Prentice-Hall



International, Inc

- Elementary Statistics, 8th Edition, by Prof. Allan G. Bluman
- Introduction to Statistical Theory, Part 1 & 2, by Prof. Sher Muhammad Chaudhry. (2009 Edition)

ECON-433	TECHNICAL WRITING & PRESENTATION SKILLS	
PREREQUISITE	ECON-312	FUNCTIONAL ENGLISH

COURSE CONTENTS

- Technical writing: distinction, purposes, importance, and objectives
- Features of technical writing: clarity, conciseness, accuracy, organization, ethics
- Producing technical documents: writing process, pre-writing techniques
- Technical writing style: sentencing, paragraphing, revision and organizing
- Formal and informal formats
- Memo writing: basic elements and types
- Professional communication: letter writing and format, similarities and differences between letters and memos, types of letters
- Basics of report writing, purpose and factors of report writing, gathering information, interpreting findings, short and long reports, abstracts, summaries, introductions, final recommendations, and conclusions; editing the report
- Job application material: goals and audience, planning the resume and letter, writing, and formatting resume, writing letter of application

RECOMMENDED BOOKS

- Brannan, B., (2003): A Writer’s Workshop: Crafting paragraph, building essays, McGraw Hill: New York
- Wong, (2002): Paragraph Essentials: A writing guide, Houghton Mifflin: Boston
- Bovee, C.L. et.al, (2002): Business Communication Today, Pearson Education, Delhi
- Maimon, E. P. & Peritz, J. H, (2003): A Writer’s Resource: A handbook for writing and research, McGraw-Hill, New York
- Kennedy, X. J., Kennedy, M. D. & Holladay, S. A, (1999): The Bedford Guide for College Writer, St. Martin’s: Bedford

ECON-434	FOUNDATIONS OF EDUCATION
PREREQUISITE	NIL

Learning Objectives/Learning Outcomes:

After completing this course, pre-service teachers will be able to:

1. Explain the important features of foundation of education
2. Specify the role of educational thinkers in education



3. Discuss the modes of education
4. Discuss historical development of Pakistan
5. Evaluate the issues and problems of education.

Course Outline:

Unit 1: Ideological Foundation of Education

- 1.1. Islamic Foundations of Education
- 1.2. Ideology and teachers

Unit 2: Philosophical Foundations of Education

- 2.1. Philosophy and Education
- 2.2. Main Philosophical Thoughts
- 2.3. Idealism
- 2.4. Realism
- 2.5. Pragmatism

Unit 3: Psychological Foundations of Education

- 3.1. Learning and Maturation
- 3.2. Individual Differences
- 3.3. Instructional Strategies and Psychology

Unit 4: Socio-Economic Foundations of Education

- 4.1. Concept of Society and Culture
- 4.2. Social Conditions and Education
- 4.3. Economic Conditions and Education
- 4.4. Politics and Education

Unit 5: Historical Foundations of Education in Pakistan

- 5.1. Period from 1947-1958
- 5.2. Period From 1959-1971
- 5.3. Period from 1972-1979
- 5.4. Period from 1980 -1991
- 5.5. Period from 1992 – to date

Unit 6: Aims of Education

- 6.1 Aims, Goals and Objectives
- 6.2 Aims and Objectives of Education in Pakistan
- 6.3 Taxonomies of Objectives

Reference Material:

- Canestrari, A. (2009). *Foundations of Education*. New York: Sage Publications.
- Eugene, F.P. (2005). *Critical issues in education: Anthology of reading*. New York: Sage Publications.
- Goldblatt, P.F., & Smith, D. (2005). *Cases for teacher development*. New York: Sage Publications.
- Holt, L.C. (2005). *Instructional patterns: Strategies for maximizing students learning*.
- Murphy, D. (2005). *Foundations/Introduction to Teaching*. USA: Allyn & Bacon, Inc. New York: Sage Publications.
- Semel, S. F. (2010). *Foundations of education: The essential texts*. USA: Routledge



ECON-435	INTRODUCTION TO INTERNATIONAL RELATIONS
PREREQUISITE	NIL

COURSE CONTENTS

- Importance and scope of International Relations
- Theories of International Relations:
 - Systems Approach,
 - Realism
 - Liberalism
 - Neo-Realism
 - Neo-Liberalism
 - Mercantilism
 - Imperialism and Colonialism
 - De-colonization
 - Neo-colonialism
- Nation and National Power
- Determinants of foreign policy:
 - War, Cold war, and non-Alignment

RECOMMENDED BOOKS

- Dar, G.M. (2008): An Introduction to International Relations, Rajat Publication
- Rashid, H.U. (2005): An Introduction to Peace and Conflict Studies, The University Press
- Shipra, M.S. (2005): Building a New Asia



ECON- 436	INTRODUCTION TO PHILOSOPHY
PREREQUISITE	NIL

Description

Introductory survey of writings, principles and concerns of philosophy. Primarily examines major topics in the study of metaphysics and epistemology through reading and critical examination of the writings of major figures in the history of philosophy. Related topics of concern to include ethics, theology and political philosophy.

Course Objectives

The student will be able to:

- examine beliefs critically to determine the assumptions underlying them and the logical arguments used to support them.
- Analyze a wide range of philosophic topics, particularly those in the study of epistemology and metaphysics.
- evaluate theories put forward by a significant range of historical and contemporary philosophers through examination of primary sources.

Course Content

A. Introduction to the nature of philosophy.

1. Overview of the scope of philosophic inquiry and its fields of concern.

- a. Logic.
- b. Epistemology.
- c. Metaphysics.
- d. Axiology (ethics and aesthetics).
- e. Political theory.

B. Epistemology: The Problem of Knowledge.

1. Basic questions of the limits, reliability and sources of knowledge from a historical and theoretical perspective.

- a. Specifically, investigation of the issues of truth, justification and belief.

2. Issues and perspectives in epistemology.

- a. Rationalism.
 - b. Empiricism.
 - c. Skepticism.
3. Philosophy and science.

C. Metaphysics: The Nature of Reality.

1. Ontology: The study of being.

- a. Materialism.
- b. Idealism.
- c. Dualism.



d. Non-dualism and process ontology.

2. Mind-body problem.

- a. Nature of consciousness.
 - b. Functionalism and Identity theory.
3. Free-will vs. determinism.
- a. Freedom and responsibility.
 - b. Hard determinism.
 - c. Compatibilism.

4. Religion and theology.

- a. Theological concepts and the presuppositions concerning the nature and existence of God.
- b. Ontological argument.
- c. Cosmological argument.
- d. Teleological argument.
- e. Problem of evil.

D. Ethical and political implications.

1. Exploration of ethical and political implications of all above listed topics to be discussed in conjunction with each as relevant.

Reference Books

1. Reading primary sources from relevant philosophers (Plato, Descartes, Locke, Hume, etc.)
2. Argumentative essay (term paper) on issues such as logical justification for the existence or otherwise of god, existence of free-will, etc.
3. Examinations, including various testing measures, including short answer questions and essay

ECON- 437	GENERAL SCIENCE
PREREQUISITE	NIL

COURSE CONTENTS

- Basics of chemistry: atoms, elements, molecules, compounds (organic, inorganic) mixtures, substance, solution, colloids and suspension. Brief description of periodic table.
- Atomic number, atomic mass, mole, avogadros number, molecular mass.
- Basics of Physics: Newton's laws of motion, work done, Energy (KE and PE), (Definition, units and brief description)
- Electricity and Curren Charge(definition), Coulomb's Law, Current, voltage, resistance, ohom's law
- Sound and light---introduction of mechanical wave, types, sound waves. Introduction of electromagnetic waves.
- Planets (Solar System),
- Life and its evolution (Darwnism)



- Plants (Classification and brief history) and animals (Classification and Brief history)
- Human body (Brief description of digestive, respiratory, nervous systems)

RECOMMENDED BOOKS

- Elhuff, L. (2008): General Science, First Course, Kessinger Publishing
- Lewis, M., and G. Waller (): Thinking Chemistry, Oxford University Press, Oxford
- Pople, S. (1987): Explaining Physics, Oxford University Press, Oxford



Fourth Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-441	Intermediate Macroeconomics	3(3+0)	Foundation Course
ECON-442	Statistics – II	3(3+0)	Foundation Course
ECON-443	Communication Skills	3(3+0)	Compulsory Course
ECON-444	Introduction to Logic	3(3+0)	General Course
Any one of the following courses			
ECON-445	Principles of Marketing	3(3+0)	General Course
ECON-446	Calculus	3(3+0)	Foundation Course
Any one of the following courses			
ECON-447	Energy Economics	3(3+0)	Optional
ECON-448	Issues in World Economy	3(3+0)	Optional
ECON-449	Economics of Education	3(3+0)	Optional
Total Credit Hours		18(18+0)	

ECON-441	INTERMEDIATE MACROECONOMICS	
PREREQUISITE	ECON-321	PRINCIPLES OF MACROECONOMICS

COURSE CONTENTS

Introduction

- Introduction to Macroeconomics
- Methodology of Economists
- Economic models & economic systems
- Exogenous and Endogenous variables
- Scope of Macroeconomics, Activities & Objectives of Macroeconomists
- Introduction to the Classical & Keynesian schools of thought.

Measurement & Structure of the National Economy

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

Productivity, Output & Employment

- The production functions
- The demand for labour, the supply of labour
- Labour Market Equilibrium



- Okun’s law and unemployment.

Consumption, Saving & Investment

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

Determination of National Income (The IS-LM/ AD-AS Models: A General framework formacroeconomic analysis)

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

Inflation and Unemployment

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

RECOMMENDED BOOKS

- Abel Andrew B. & Bernanke Ben S, Macroeconomics, 5th/ 8th Edition, Addison Wesley
- Mankiw N. G., Macroeconomics, 6th Edition or earlier versions, Worth
- Shapiro, Edward – Macroeconomic Analysis- 7th Edition (2000) –Harcourt Brace Inc.
- Froyen, Richard–Macroeconomics: Theories and Policies–7th Edition (2002) –• Macmillan
- Blanchard, Oliver – Macroeconomics -2nd Edition (2000)- Prentice Hall International.
- Dornbusch & Fisher – Macroeconomics- 9th Edition (2004) - McGraw Hill Inc.
- David Romer, “Advanced Macroeconomics” The McGraw-Hill Series in Economics.

ECON-442	STATISTICS- II	
PREREQUISITE	ECON-432	STATISTICS -I

COURSE CONTENTS

Introduction

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

Simple Regression and Correlation



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

Estimation: Describing a single population

- Introduction Point and Interval Estimates Basic Concepts
- Confidence and Interval estimates of the Mean from Large samples
- Interval estimates using the t-distribution
- Determining the Sample Size.

Hypothesis testing: Describing a single population

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

Chi-Square Distribution and Statistical Inference

- Introduction
- Chi-squared test of a contingency table

F-Distribution and Statistical Inference

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

Analysis Of Variance

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

RECOMMENDED BOOKS

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



ECON-443		COMMUNICATION SKILLS
PREREQUISITE	ECON-433	ENGLISH COMPREHENSION & COMPOSITION

COURSE CONTENTS

- Need to acquire effective communication Skills, especially at workplace
- Language as the medium of communication: origin and importance of language, introduction to the four basic communication skills and their significance in the respective discipline, relationship of language with the basic communication skills
- Communication process: types of communication, principles of effective communication, barriers to effective communication, seven Cs of effective communication
- Audience recognition and involvement: defining terms for different audience levels, multicultural audiences, sexist language, audience involvement
- Listening skills (theory and practice): identifying four different listening responses, practicing appropriate questioning responses, providing feedback in reflective listening, barriers to listening
- Speaking skills: improving pronunciation, neutralizing accent, speaking with an outline, speaking extempore, improving general spoken expression, speeches, and oral presentations, gathering material, organization of data, use of appropriate language
- Reading Skills: The basic rules of reading, skimming, scanning, surveying, reading comprehensions, reading tables, graphs, and bar-charts, practicing reading activities

RECOMMENDED BOOKS

- Ludden M. J. (2002): Effective Communication Skills, 2nd edition, JIST Works:Indianapolis

ECON- 444	INTRODUCTION TO LOGIC
PREREQUISITE	NIL

COURSE CONTENTS

- Concept and scope of logic as science and art
- Laws of logic
- Induction and its characteristics
- Categorical propositions and classes
- Quality, quantity, and distribution
- Square of opposition
- Immediate inferences, conversion, obversion, contraposition, inversion
- Existential import
- Symbolism and diagram for categorical propositions
- Three basic uses of language
- Discourse serving multiple functions
- Kinds of agreements and disagreements
- Purpose and types of definitions and meanings



- Form, nature, and exposition of syllogism
- Rules, fallacies, ambiguities, and dilemma
- Translating categorical propositions into standard form
- Uniform translation

ECON-445	PRINCIPLES OF MARKETING
PREREQUISITE	NIL

COURSE CONTENTS

Introduction to Marketing

- Marketing and the Society
- Importance and scope of marketing
- Definition of marketing
- Nature and concept of marketing.

Marketing Environments

- The Marketing environment
- Macro environment
- Microenvironment
- Environmental scanning and monitoring

Marketing & Strategy

- Strategic planning
- Strategic marketing planning
- Forecasting marketing demand

Marketing Decisions

- Information required for marketing decisions
- Reasons for obtaining information
- Marketing research

Consumer Behaviour

- Information for purchase decisions
- Consumer decision process
- Influence of social and psychological factors
- Market implications.

Market Segmentation & Targeting

- Factors for Segmentation
- Selecting the target market
- Developing the positioning and target market strategies.

Products & Services

- Definition of product and services
- Classification of consumer goods
- Classification of business goods

Product Development & Life Cycle

- Product development process and commercialization
- Product life cycle stages and its implications.

Pricing

- Overview of pricing, Importance of pricing
- Break even analysis, Factor effecting pricing decisions.

Setting the price and relating strategies



- Pricing objectives
- Sale based objectives
- Profit based objectives
- Status quo Pricing
- Price strategy.

Pricing techniques and their applications

- Cost based pricing
- Cost plus pricing
- Target pricing
- Floor pricing.

Distribution

- Importance of distribution channels
- Selecting a channel of distribution
- Retail functions in distribution
- Recent trends in wholesaling and retailing

Promotion

- Importance and types of promotion
- Channels of communication
- Objectives
- Budgeting and promotional mix,
- Legal environments of promotion.

Advertisement and Publicity

- Scope of advertisement and publicity
- Characteristics of advertisement and publicity
- Development, planning and implementation of advertising plan
- Evaluating the success and failure of promotional plan.

Introduction to e-business

- Introduction
- Different trends
- Rules of doing e-business
- E-business application in the market.

RECOMMENDED BOOKS

- Philip Kotler, Principles of Marketing (Latest Edition)
- David Jobber, Principles of Marketing (Latest Edition)
- Jerome McCarthy & William, D. Pareanth, Basics Marketing, (Latest Edition)

ECON-446	CALCULUS
PREREQUISITE	NIL

COURSE CONTENTS

• 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 Rural-Urban Nexus of Development and Other Approaches

- **Limit of function:**

Left- and right-hand limit

Continuity

- **Derivatives and their Applications:**

Differential functions and Transcendental functions

Differentiation of polynomial Rational

Derivatives and partial derivatives

- **Integration:**

Indefinite and definite integrals

Rules of integration and its applications

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- 447	ISSUES IN WORLD ECONOMY
PREREQUISITE	NIL

COURSE OBJECTIVES:

The basic objective of this course is to focus on major global economic issues that characterize the state of our current world. This course aims to give students a deep and a comprehensive understanding of what global economy is and how to manage domestic economy in the context of a dynamic global economy. This course introduces and critically examines the processes involving the increasing interconnection of the world and its effects on people's lives. The course provides an interdisciplinary perspective on major concepts in order to make sense of the changes taking place at a global scale. It also explores existing debates and case studies in order to illustrate the ongoing challenges that communities face.

COURSE CONTENTS

- Economic Geography: An Introduction
- The Historical Development of Capitalism
- Population
- Resources and Environment
- Theoretical Considerations
- Agriculture
- Manufacturing



- Services
- Transportation and Communications
- Cities and Urban Economies
- Consumption
- International Trade and Investment
- International Trade Patterns
- Development and Underdevelopment in the Developing World

TEXT AND REFERENCE BOOKS

Stutz, F. P., & De Souza, A. R. (1998). The world economy: Resources, location, trade, and development. Prentice Hall.

Stiglitz, J. E. (2002). Globalization and its Discontents. New York.

Dicken, P. (2007). Global shift: Mapping the changing contours of the world economy. SAGE Publications Ltd.

Rosser, J. B., & Rosser, M. V. (2018). Comparative economics in a transforming world economy. MIT Press.

Freidman, T. (2005). The world is flat. New York: Farrar, Straus and Giroux.

Bhagwati, J. (2007). In defense of globalization: With a new afterword. Oxford University Press.

Stiglitz, J. E. (2008). Making Globalization Work. WW Norton

ECON- 448	ENERGY ECONOMICS
PREREQUISITE	NIL

COURSE OBJECTIVES

- 1) To provide a better understanding and analysis Global energy trends and current situation
- 2) To enable the students to combine the economic tools with the goals of energy policy.

COURSE CONTENTS

1. Introduction and Background

- Global energy trends and current situation
- Energy and the economy – biophysical foundations

2. Oil industry, history and market structure.

- Oil, gas, and coal resources – geology, discovery, development, production, refining etc.
- World distribution of oil resources and production
- Non-renewable resource scarcity theory
- Oil markets, market structure, and pricing
- Oil price shocks and the economy

3. Natural Gas, Nuclear and Coal Industry



- World distribution of coal, gas, and uranium resources and production
 - Nuclear Energy
- 4. Supply and Demand for Electricity in the US, Pakistan and rest of the world.**
- 5. State Regulatory Model**
- 6. Economics of electric power production, linear programming and marginal costs**
- 7. Topics in electric tariff design**
- 8. Electric Industry Restructuring**
- 9. Renewable Resources and Portfolio Standards**
- Innovation and learning curve – analysis of alternative energy technologies
 - Renewable energy – wind, solar, geothermal etc.
 - Energy storage

TEXT AND REFERENCE BOOKS

- Bhattacharyya, S. C. (2011). Energy Economics Concepts, Issues, Markets and Governance, Springer-Verlag.
- Fouquet, R. (2013). Handbook on Energy and Climate Change, Edward Elgar Publishing, Cheltenham.
- Zweifel, P., Praktiknjo, A.J., and Erdmann, G. (2017). Energy Economics: Theory and Applications. Springer Publisher. ISBN: 978-3-662-53020-7

ECON- 449	ECONOMICS OF EDUCATION
PREREQUISITE	NIL

COURSE OBJECTIVES:

1. To analyze the ways through which the education is organized and delivered to achieve economic growth in the most efficient ways.
2. To understand the efficacy of reforms pertaining to teacher salaries, student teacher ratio and charter schools.
3. To develop an understanding of the importance of education in economic growth of a country.

COURSE CONTENTS:

- Introduction: Defining economics and educational problem
- Importance of Schooling
- Econometrics overview, empirical research methods in the economics of education
- Human Capital theory: The basic economic perspective on education
- Education as a Signal: Signaling in the labour market
- Returns to education in developing countries, with special reference to Pakistan, social rate of returns to education
- Educational Production
- Education and health
- Education and inequality



- School Accountability and Standards
- Technology and Education
- Role of state in education
- Educational privatization

TEXT AND REFERENCE BOOKS:

1. Dominic J. Brewer, Patrick J. McEwan, Economics of Education, (latest edition) Elsevier,
2. Geraint Johnes, Jill Johnes, T. Agasisti and Laura, Contemporary Education Economics, (latest edition), Edward Elgar Publishing
3. Franklin G. Mixon, Richard J. Cebula New Developments in Economic Education, (latest edition), Edward Elgar Publishing

YEAR 03- Fifth Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-551	Microeconomic Theory	3(3+0)	Major
ECON-552	International Economics	3(3+0)	Major
ECON-553	Development Economics	3(3+0)	Major
ECON-554	Basic Econometrics	3(3+0)	Foundation Course
ECON-555	Mathematical Economics	3(3+0)	Foundation Course
The following subject may optional			
ECON- 556	Poverty and Income Distribution	3(3+0)	Optional
Total Credit Hours		15 (15+0) 18 (18+0)	

ECON-551	MICROECONOMIC THEORY	
PREREQUISITE	ECON-441	INTERMEDIATE MICROECONOMICS

COURSE CONTENTS

Introduction

- The Economic Problem,
- Basic economic agents,
- Microeconomics and Macroeconomics,
- Types of Microeconomic Analysis, framework of Microeconomics

Consumer Behaviour

- Consumer Preferences
- Consumption bundle
- Axioms of consumer preferences
- Budget Constraint
- Consumer choices
 - Utility maximization subject to budget constraint



- Marshallian demand function (Concept, Derivation and Properties)
- Indirect utility function (Concept, Derivation and Properties)
- Budget minimization subject to utility constraint, Hicksian demand function (Concept, Derivation and Properties)
- Expenditure Function (Concept, Derivation and Properties)
- Duality between Hicksian and Marshallian demand functions,
- Duality between utility function and indirect utility function
- Choice under uncertainty (elementary treatment)
- Consumption over Time (elementary treatment)

Production Analysis

- Constraints
- **Technical Constraints:**
Production, production process, Types of inputs, concept of net output, production plan, Production set, Few Concepts in describing technology; Iso-quants, Technical rate of substitutions, Elasticity of substitution, Returns to scale, Elasticity of scale, Homogeneous and homothetic technologies, Euler's theorem, Technologies with distinct outputs and inputs, Production function and Classification of production functions; Fixed coefficients production function, Leontief technology, Linear production function, Cob-Douglas production function, Constant elasticity of substitution production function, Transcendental logarithmic production function.
- **Financial Constraints:**
Budget Constraint, Cost of Production, Economic Cost, Private Cost, External Cost, Implicit Cost, Explicit Cost, Cost equation and Cost Function.
- **Market Constraints:**
Price Constraints: price takers, price regulations, sticky prices, minimum prices etc, Quantity Constraints: Quota, negatively sloped demand curve, kinked demand curve

Optimization

- **Profit maximization:** Profit equation, Input demand function (concept, derivation, and properties), Output supply function (concept, derivation, and properties), Profit function (concept, derivation, and properties).
- **Cost minimization:** The cost minimization problem, Conditional input demand function (concept, derivation, and properties), Cost function (concept, derivation, and properties)
- **Revenue maximization:** The revenue maximization problem, Revenue function concept, derivation, and properties)

RECOMMENDED BOOKS

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



ECON- 552	INTERNATIONAL ECONOMICS
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

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

Theories of International Trade

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

International trade Policies

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

Trade policies in Developing countries

- Import substituting Industrialization
- Export oriented Industrialization

Economic integration

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

The foreign Exchange Markets

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

The Balance of Payments

- Balance of payments accounting
- Features of balance of payments.
- Components of balance of payments.
- Measuring the deficit or surplus of balance of payment

RECOMMENDED BOOKS

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



ECON-553	DEVELOPMENT ECONOMICS
PREREQUISITE	NIL

COURSE CONTENTS

The Concept & Nature of Development

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

Theories of Development

- Introduction
- The Growth Game
- The Economics of Growth: K, L & Tech
- Differing Initial Conditions
- Classic Theories
- Linear Stages Theories & the Harrod-Domar Model
- Structural Change Models
- Neo-Classical counterrevolution
- Contemporary Models
- The New Growth Theory

Poverty and Population Growth

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

Human Capital: Education & Health

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

RECOMMENDED BOOKS

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



ECON-554	BASIC ECONOMETRICS			
PREREQUISITE	ECON-432	ECON-442	STATISTICS-I	STATISTICS-II

COURSE CONTENTS

Introduction

- Why Study Econometrics?
- Methodology of Econometrics
- Types of Econometrics
- Data types and its sources

The Classical Linear Regression Model (CLRM)

- Simple Regression function
- Population regression function
- Linear regression function
- Linearity in variables and linearity in parameters
- Simple Regression Analysis
- Estimation of regression equation using OLS
- Statistical properties of OLS estimators (BLUE)
- Classical Linear Regression Model (CLRM) and its assumptions
- Estimation of the coefficient of determination

The Multiple Linear Regression Model (MLRM)

- Multiple Regression Analysis
- Difference between simple and multiple regression analysis
- OLS estimation of multiple regression equation
- Properties of OLS estimators
- Coefficient of determination (R²) and Adjusted R²
- Testing the significance of Regression coefficients (t-test)
- Testing the overall significance (F-test) of the model

Econometric Modeling:

- Model Specification:
- Model selection criteria
- Types of specification errors
- Consequences of model specification errors
- Tests of specification errors
- Errors of measurement
- Model selection criteria
- Endogeneity and nature of Endogeneity
- OLS estimation in presence of Endogeneity
- Detection of Endogeneity
- BLUE estimators in the presence of Endogeneity
- Consequences of Endogeneity in OLS estimation
- Remedial measures.

Multicollinearity

- Nature and severity of the problem
- OLS estimation of regression equation in the presence of perfect multicollinearity
- Causes of multicollinearity
- Distinction between perfect and partial multicollinearity



- Detection and remedial measures.

Heteroscedasticity

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

Autocorrelation

- Autocorrelation and its causes
- Time-series data and emergence of the problem with reference to economic theory
- Serial correlation
- Consequences of autocorrelation for OLS estimators Detection and remedial measures

RECOMMENDED BOOKS

- Dougherty, C. Introduction to Econometrics, Oxford University Press.
- Gujarati, D. N. Basic Econometrics, McGraw-Hill Company.
- Hill, R.C., Griffiths, W.E. and C. Lim, G.C. Principles of Econometrics, John Wiley, New York.
- Stock H. J. and M. W. Watson. Introduction to Econometrics, Pearson Education.
- Wooldridge, J. M. Introductory Econometrics: A Modern Approach, SouthWesternCollege.

ECON- 555	MATHEMATICAL ECONOMICS	
PREREQUISITE	ECON-313	LINER ALGEBRA

COURSE CONTENTS

The Nature of Mathematical Economics

- Pure and applied mathematics
- The use of mathematical tools in social sciences, particularly in economics
- Economic theory (logical argument) as description of relationship between variables
- Mathematical Support: Expression of theory in functional form
- Explaining properties of economic parameters like elasticity, propensity to consume etc.,
- Verification of hypotheses and the use of mathematical models, Parameters, and variables(dependent and independent)
- Linear and non-linear functions: quadratic, polynomial, circular
- Types of functions: constant, rational, non-algebraic, logarithms & exponential
- Rules of logarithms and exponents
- Functions of more than two independent variables
- Graphs of various functions
- The importance and limitations of mathematical models.

Equilibrium Analysis

- Equation of a straight line: Intercept and Slope parameters and



their economic interpretation

- Partial and general equilibrium analysis
- Single and Simultaneous equation models
- Examples from market models: Demand and supply equations
- Determination of price and quantity
- Calculation of elasticities at equilibrium.

Linear Models and Matrix Algebra

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

Differentiation

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

Economic Applications of Differential Calculus

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

RECOMMENDED BOOKS

- Chiang, A. C. Fundamental Methods of Mathematical Economics, 3rd Edition (1984) McGraw Hill Publishing Company.
- Frank, Budnick. Applied Mathematics for Business, Economics and Social Sciences, 4th Edition or latest - McGraw Hill Publishing Company.



- Dowling, E. T. Mathematics for Economists, Schaum's Outline Series, 3rd Edition McGraw Hill Publishing Company.
- George, Alvery et. al. Essentials of Mathematics with Business Applications, 5th Edition, McGraw Hill Publishing Company.
- Weber, E. Jean. Mathematical Analysis: Business and Economic Applications, Latest Edition, Harper and Row Publishers, New York.

ECON-556	POVERTY & INCOME DISTRIBUTION
PREREQUISITE	NIL

COURSE OBJECTIVES:

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

COURSE CONTENTS:

1. Introduction:

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

2. Issues in the Measurement of Poverty & Inequality:

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

3. Empirical Analysis of Poverty:

- Defining and estimating poverty Lines
- Poverty measures
- Desirable qualities of good poverty measure
- Rigid and adjustable measures
- Sub group poverty analysis
- Welfare Interpretation of poverty measures
- Multidimensional Poverty (concept and measurement)

4. Empirical Analysis of Inequality

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

5. Empirical Analysis of Welfare

- Approaches to measure welfare



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

6. Issues in Poverty and Inequality:

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

7. Poverty and Inequality in Pakistan:

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

TEXT AND REFERENCE BOOKS:

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



Sixth Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-561	Macroeconomic Theory	3(3+0)	Major
ECON-562	Public Finance	3(3+0)	Major
ECON-563	Monetary Economics	3(3+0)	Major
ECON-564	History of Economic Thought	3(3+0)	Optional
ECON-565	Environmental Economics	3(3+0)	Major
Total Credit Hours		15 (15+0)	

COURSE CONTENTS

Macroeconomics: The Classical Framework

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

The Demand Management Economy

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

ECON-561	MACROECONOMIC THEORY		
PREREQUISITE	ECON-441	INTERMEDIATE MACROECONOMICS	

The Supply Side Economics

- Demand for and Supply of Labour
- The wage rate determination
- Rigidity versus flexibility of nominal wage rate
- The short-run Production function
- Derivation of Aggregate Supply under the Classical and Keynesian assumptions
- The notions of full-employment and under-employment



- Scarcity of raw material and energy
- The supply side disturbances leading to stagflation

The Open Economy Macroeconomics

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

Macroeconomic Policy Debate

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

Growth and Business Cycles

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

RECOMMENDED BOOKS

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

ECON-562	PUBLIC FINANCE
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

- The State and the Economy



- The Rationale for State Intervention

Fundamentals of Welfare Economics

- Market Efficiency
- Market Failure
- Efficiency and Equity

Analysis of Public Expenditure

- Public Goods
- Public Choice
- Public production and Bureaucracy
- Externalities
- Cost Benefit Analysis

Expenditure Programmes

- The Analysis of Expenditure Policy
- Cost Benefit Analysis

The Theory of Taxation

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

Selective Topics

- Public Finance in a Federal System
- Deficit Finance

RECOMMENDED BOOKS

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

ECON-563	MONETARY ECONOMICS	
PREREQUISITE	ECON-321	PRINCIPLES OF MACROECONOMICS

COURSE CONTENTS

Introduction and Development of Monetary Mechanism

- Evolution of Money and Payment System
- Definition of Money
- Function of Money and Measurement of Money
- Demand for Money and Supply of Money
- Classification of Money, M1, M2, M3, etc.

Role of Money in the Economy

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

Theory of Demand for Money



- Quantity Theory of Money
- Transaction Theories of Demand for Money
- Friedman's Restatement of Quantity Theory of Money.

The Money Supply Process

- Monetary Base
- Keynesian Liquidity Preference Framework
- Introducing the Money Supply Process
- Determinants of the Money Supply: Exogenous and Endogenous
- Understanding Movements in the Monetary Base
- Money Multiplier
- Velocity of Money
- Explaining Depositor and Bank Behavior: The Complete Money Supply Model.

The Conduct of Monetary Policy: Central Bank

- Structure and Functions of Central Bank
- Independence of Central Bank and its Role in Economic Growth
- Tools of Central Bank for Money Control
- The Conduct of Monetary Policy: Goals and Targets
- Tools of Monetary Policy and their Comparative Analysis
- Impact Analysis of Monetary Policy Tools Financial Intermediaries
- Targeting interest rate and inflation.

Money and Interest Rates

- Determinants of Interest Rates
- Kinds of Interest Rates
- Understanding and Measurement of Interest Rates
- Real and Nominal Interest Rates
- The Distinction Between Interest Rates and Returns
- Portfolio Choice: Theory of Asset Demand.

Money and Inflation

- Inflation, Kinds of Inflation and Causes of Inflation
- Demand – pull Inflation, Cost – push Inflation
- Stagflation and Hyperinflation
- Inflation as a Monetary Phenomenon
- The Philips Curve and Accelerating Inflation
- Situation Analysis of Inflation in Pakistan
- Historical Perspective, Causes of Inflation in Pakistan, Policies to Combat Inflation in Pakistan.

RECOMMENDED BOOKS

- Mishkin, Frederic S. The Economics of Money, Banking and Financial Markets. Pearson (11th edition).
- Cecchetti, Stephen and Kermit, Schoenholtz. Money, Banking and Financial Markets. McGraw-Hill. (4th edition).
- McCallum, Bennett T. Monetary Economics, Theory and Policy. McMillan. (Latest Edition).
- Laider, David E. W. The Demand for Money: Theories, Evidence and Problems. Pearson. (4th edition).
- Miller, R. L. and Van Hoose, D. Money, Banking and Financial Markets. Thomson South-Western (Latest edition).



- Handa, J. Monetary Economics. Routledge. (Latest edition).

ECON-564	HISTORY OF ECONOMIC THOUGHT
PREREQUISITE	NIL

COURSE CONTENTS

Classical Economics

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

Marxian Economics

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

Neo-Classical Economics

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

Keynesian Economics

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

Post Keynesian Economics

RECOMMENDED BOOKS

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

ECON-565	ENVIRONMENTAL ECONOMICS
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

- An introduction to environmental economics
- Economy–environment interdependence
- Main environmental problems
- Environmental economics: An overview.

Reasons of Studying Environmental Economics

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

Economic Efficiency and Social Efficiency

- Review of basic concepts
- Economic approach and economic efficiency



- Social decision making and socially efficient level.

Externalities

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

Environmental Pollution and Control Mechanisms

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

Command and control instruments

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

Criteria for evaluating environmental policies

- Cost efficiency and cost effectiveness.

Economic Valuation

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

Sustainability and Development

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

Input-Output Analysis, Technology and Environment

- Origin, derivation, and usefulness of the model.

Global Environmental Problems

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

RECOMMENDED BOOKS

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



YEAR 04 - Seventh Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-671	Advanced Econometrics	3(3+0)	Major
ECON-672	Research Methodology	3(3+0)	Major
ECON-673	Labour Economics	3(3+0)	Optional
Any two of the following courses			
ECON-674	Financial Economics	3(3+0)	Major
ECON-675	Dynamic Optimization	3(3+0)	Major
ECON-676	Islamic Finance	3(3+0)	Optional
ECON-677	Industrial Organization	3(3+0)	Optional
Total Credit Hours		15(15+0)	

ECON-671	ADVANCED ECONOMETRICS	
PREREQUISITE	ECON-553	BASIC ECONOMETRICS

COURSE CONTENTS

Nonlinear Regression Models

- Intrinsically linear and intrinsically nonlinear Regression models
- Estimation of nonlinear Regression models

Qualitative Response Regression Models

- The linear probability model
- Applications of linear probability model
- The logit model
- Estimation of the Logit model (Grouped and ungrouped data)
- The Probit model, Probit estimation with grouped data
- The Probit model for ungrouped or individual data
- The Tobit model

Pool and Panel Data

- Why panel data regression models
- Estimation of pool data regression models
- Common intercept method
- Fixed-effects model
- Least Squares Dummy Variables Approach
- Random-effects model
- Fixed-effects model Vs. Random-effects model
- Hausman Specification Test

Simultaneous Equation Models and Estimation Methods

- Simultaneous equation models
- Nature of simultaneous equations
- Examples of simultaneous equation models from economic theory
- Rules for identification
- Unidentified, exactly identified and over identified



- Indirect least squares
- Two-stage least squares
- Instrumental Variables

Time-Series Econometrics

- Stationarity
- Tests for Stationarity
- Transforming Non-stationary Time Series
- ARMA and ARIMA Models
- VAR Model
- ARDL Model

RECOMMENDED BOOKS

- Dimitrios, A. and Hall, S.G. Applied Econometrics: A Modern Approach using Eviews and Microfit, Palgrave, Macmillan
- Gujarati, D. N. Basic Econometrics McGraw-Hill Company.
- Hill, R.C., Griffiths, W.E. and Lim, G.C. Principles of Econometrics, John Wiley, New York.
- Stock H. J. and M. W. Watson Introduction to Econometrics, Pearson Education.
- Wooldridge J. M. Econometric Analysis of Cross Section and Panel Data, The MIT Press, Latest edition

ECON-672		RESEARCH METHODOLOGY		
PREREQUISITE	ECON-432	ECON-442	STATISTICS-I	STATISTICS-II

COURSE CONTENTS

Introduction

- Basic Concepts, Definitions, Terminologies

Research types and designs

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

Literature review

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

Sampling

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

Data Sciences

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

Data analysis



- Descriptive analysis, Regression, Data Visualization

Thesis /Report writings

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

RECOMMENDED BOOKS

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

ECON-673	LABOUR ECONOMICS
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

- Introduction of the labour market
- Important actors of the labour market
- Importance of the understanding of the labour market.

Labour Supply

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

Labour Demand

- The production function
- Employment decisions by the firm and factors related to these decisions
- Cost adjustment and labour demand
- The effect of minimum wage on labour demand

Labour Market Equilibrium

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



- Non-competitive labour markets

Compensating Wage Differentials

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

Human Capital

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

The Wage Structure

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

Labour Unions and Collective Bargaining

- Labour union: background and facts
- Determinants of union membership
- Unions and monopoly
- Efficient bargaining
- Strikes
- Wage and non-wage effects of union

Unemployment

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

RECOMMENDED BOOKS

- Borjas, George J. (2008). Labor Economics. McGraw-Hill/Irwin.
- McConnell et al. Contemporary Labor Economics, (latest edition), McGraw-Hill/Irwin.
- R. Ehrenberg and R. Smith. Modern Labor Economics, (latest edition), Addison Wesley.

ECON-674	FINANCIAL ECONOMICS
PREREQUISITE	NIL

COURSE OBJECTIVES:

- To introduce the fundamentals of financial economics
- To understand financial system
- To explain the financial decision-making process

COURSE CONTENTS:



- An Introduction to Financial Economics
- Defining Risk and Return
- Using Probability Distributions to Measure Risk
- Attitudes Toward Risk
- Risk and Return in a Portfolio Context
- Diversification
- The Capital Asset Pricing Model (CAPM)
- Time Value of Money
- The Interest Rate
- Simple Interest
- Compound Interest
- Amortizing a Loan
- The Valuation of Long-Term Securities
- Distinctions Among Valuation Concepts
- Bond Valuation
- Preferred Stock Valuation
- Common Stock Valuation
- Rates of Return (or Yields)

TEXT AND REFERENCE BOOKS:

- Fredric S. Mishkin, The Economics of Money, Banking and Financial Markets, (latest edition), The Pearson Series in Economics.
- Stephen F. LeRoy and Jan Werner, Principles of Financial Economics (latest edition), Cambridge University Press
- FINANCIAL MANAGEMENT -T. J Gahagher and J. D. Andrew and Jr. McGraw Hill 1997.
- FOUNDATION OF FINANCIAL MANAGEMENT- Geoffrey A. Hirt, Richard D. Irwin, Inc. Stanley B. Block, 1997.
- FUNDAMENTALS OF FINANCIAL MANAGEMENT, Prasanna Chandra, Tata McGraw-Hill Publishing Company Limited, New Delhi
- FUNDAMENTALS OF FINANCIAL MANAGEMENT James C. Venhorn

ECON-675		DYNAMIC OPTIMIZATION
PREREQUISITE	ECON- 555	MATHEMATICAL ECONOMICS

COURSE CONTENTS

Complex Number and Circular Functions

- Imaginary and Complex Numbers
- Complex Roots
- Circular Functions.

Integral Calculus

- Comparative Dynamics and Integration
- The Nature of Indefinite Integrals



- Rules of Integrations and Operation: Substitution Rule, Integration by parts.
- Definite integrals and their properties
- Definite Integrals and Area under a curve
- Improper integrals
- Economic Applications of Integrals:
- Finding total functions from marginal functions Investment & capital formation etc.

Differential Equations

First Order Linear Differential Equations

- Meaning and Definition; Homogenous & non-Homogenous cases
- Solution of first order linear differential equations: with constant coefficient & constant term, with variable coefficient and variable terms
- Qualitative approach: Concept of phase diagrams
- types of time paths and the dynamic stability of equilibrium
- Exact differential equations: Solution and Verification
- Non-linear differential equations of the first order and first degree
- Bernoulli Equation
- Separable Variables.

Higher Order Differential Equations

- Solution and Verification of second order linear differential equations with constant coefficients and constant terms
- Dynamic stability of equilibrium
- Economic applications: Market models with price expectations
- The Interaction of inflation and unemployment in continuous time.

Difference Equations

First Order Difference Equations

- Meaning and definition
- First order linear difference equations: Solution and verification of results
- Conditions for dynamic stability of equilibrium, Types of time paths.

Higher Order Difference Equations

- Solution and verification of second-order linear difference equations with constant coefficients and constant terms
- Real and imaginary roots
- Distinct, repeated, and complex roots
- The convergence and divergence of the time paths
- Economic applications: Models of business cycles
- The Multiplier-Acceleration interaction model
- inflation-unemployment model in discrete time
- Higher order difference equations and their solutions.

RECOMMENDED BOOKS

- Chiang, A.C. and Kevin Wainwright. Fundamental Methods of Mathematical Economics, 4th Edition, McGraw Hill Publishing Company.



- Gandolfo, G. Economic Dynamics: Methods and Models, Latest Edition, North Holland Publishing Company
- Weber E. Jean, Mathematical Analysis, Business and Economic Application, Latest edition, Harper and Row Publishers, Netherlands.
- Hoy M., Livermois J, Rees R, Stengos T. Mathematic for Economics, Addison & Wesley Publishers.

ECON- 676	ISLAMIC FINANCE
PREREQUISITE	NIL

COURSE CONTENTS:

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

2. Features of Islamic finance;

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

3. History and Development of Islamic Finance;

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

4. Shariah Compliant Islamic Finance Structures;

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



- Qard.

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

BOOKS:

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

ECON-677	INDUSTRIAL ECONOMICS	
PREREQUISITE	ECON431	INTERMEDIATE MICROECONOMICS

COURSE OBJECTIVES:

1. To describe the basic models of the interacting firms
2. Solve analytically problems relating to industrial organization.
3. To study the rationale of Government intervention in markets

COURSE CONTENTS:

1. Monopoly Power and Practice

- Price discrimination
- Product variety and quality

2. Game Theory and Oligopoly Markets

- Static games and Cournot competition
- Dynamic games and first and second movers

3. Anticompetitive Strategies

- Limit pricing and entry deterrence
- Price-fixing and repeated games

4. Contractual Relations between Firms

- Horizontal mergers
- Vertical and conglomerate mergers

5. Non-price Competition

- Advertising, market power, and information
- Research and Development

6. New Developments in Industrial Organization

- Network issues
- Auctions and Auction Markets

TEXT AND REFERENCE BOOKS:



- Lynne Pepall, Daniel J. Richards and George Norman, Industrial Organization: Contemporary Theory and Practice, (latest edition), South Western College Publishing
- Tirole, J , The Theory of Industrial Organization, (latest edition), MIT Press

Eighth Semester			
Course Code	Course Title	Credit Hours	Course Type
ECON-681	Cost Benefit Analysis	3(3+0)	Optional
ECON-682	Population Economics	3(3+0)	Optional
ECON-683	Issues in Pakistan Economy	3(3+0)	Major
Any two of the following courses or Thesis			
ECON- 684	Applied Economics	3(3+0)	Optional
ECON-685	Development Policy	3(3+0)	Optional
ECON-686	Political Economy	3(3+0)	Optional
ECON-687	Health Economics	3(3+0)	Optional
Thesis- 688	Research Project/Thesis	6(0+6)	Optional
Total Credit Hours		15(15+0) or 15(9+6)	

ECON-681	COST BENEFIT ANALYSIS
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

- Rationale of a project and its Cost Benefit Analysis

Project Cycle

- Phases of Project Cycle
- Identification
- Feasibility Report
- Preparation
- Appraisal
- Implementation and Evaluation

Project Identification

- Sources of Project Identification
- Steps of Project Identification

Feasibility Report & Project Planning



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

Project Appraisal

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

Project Approval

- Rules of project approval

Project Implementation

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

Project Evaluation

- Significance & Purpose
- Types and indicators of evaluation.

RECOMMENDED BOOKS

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

ECON-682	POPULATION ECONOMICS
PREREQUISITE	NIL

COURSE CONTENTS

Introduction

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

Theories of Population

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



- Theory of Relative Income

Fertility

- Understanding the Concept
- Measuring Fertility
- Period Measures of Fertility
- Cohort Measures of Fertility
- Fertility Trends
- Fertility & Population Growth in Pakistan

Mortality

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

Migration

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

Population Composition: Age & Sex Composition

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

Population Growth & Ageing

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

Urbanization

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

Population Policy

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

RECOMMENDED BOOKS:

- Weeks J. R, Population. An Introduction to Concepts and Issues (latest edition). Wadsworth Publishing Company, USA.
- Poston D. L. & L. F. Bouvier. Population and Society: An Introduction to Demography, (latest edition), Cambridge University Press, UK.

ECON-683	ISSUES IN PAKISTAN ECONOMY
PREREQUISITE	NIL



COURSE CONTENTS

Quick Review of National Income Accounts

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

Agricultural Sector of Pakistan

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

Industrial Sector of Pakistan

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

Fiscal and Monetary Policies and Inflation in Pakistan

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

Public and External Debts in Pakistan

- Difference between the two Debts
- Is Debt Creation Always Bad?
- Concerns Regarding Pakistan's Fiscal Deficit
- Reforms to Bring Debt under Control

Performance of Pakistan on Foreign Economic Front

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



Pakistan

- Exchange Rate Regimes in Pakistan
- The Weakening Currency of Pakistan

Recent Challenges Facing Pakistan Economy

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

RECOMMENDED BOOKS

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

ECON- 685		DEVELOPMENT POLICY	
PREREQUISITE	ECON 555	DEVELOPMENT ECONOMICS	

COURSE CONTENTS

1. What is Development?

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

2. Growth and Development

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

3. Development policy and Governance

- Role of Institutions in Development
- Governance and Corruption

Globalization and Changing Role of State

4. Global Influences on Development Policy

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

5. Poverty and Inequality



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

6. Education and Healthcare

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

7. Environment and Sustainable Development

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

8. Migration, Urbanization, Issues facing Megacities

TEXT AND REFERENCE BOOKS

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



ECON- 686	POLITICAL ECONOMY
PREREQUISITE	NIL

COURSE CONTENTS

1. Introduction

- Meanings, Definitions and brief Introduction of basic Concepts of Political Economy
- Economic and Political Integration. Policy Reforms and Popular Organizations, key Social and Economic indicators, Political and Economic Institutions and their role in decision-makings
- Linkages of Politics and Economics, Conceptualizing the Changing Global Order.
- **Political Economy and the World Order**
 - Problem of Power and Knowledge: New Millennium, Knowledge, Politics and Neo-Liberal Political Economy
 - New Voices in the Globalization Debate: Green Perspective, Regional Phenomena and State Order, New State Actors, Theory of Economic and Political Exclusion

2. Regional Dynamics

- Regionalism and Globalization, the Political Economy of European Integration: European Union and Brexit
- Regionalism in the Asia-Pacific Political Globalization and the Competition State. Economic Blocks and Political Blocks: ASEAN, Shanghai Cooperation Organisation; SARC, GCC, OPEC etc.

3. Political Economy of Economic Development

- International Politics and Transfer of Technology, Sector-Specific Development Limitation.
- Agriculture and Industry, Political Slogans and their Implementation, International challenge of poverty,
- The Political Economy of food grain prices, Rural Development. Regional Exporting Blocks and their Markets.
- Political Economy of Foreign Aid, Foreign Private Investments and Foreign Trades
- 4. Political Economy of Pakistan
 - The Economics of Patronage and Elite Capture of the Resources
 - The Political Economy of Land Reforms, Nationalization and Privatization
 - The Elitist Economic Model. Strategies for self-preservation.
 - Civil-Military Relationships
 - Different Political Regimes and Economic Growth and Development



Strategies

- Centre, Provincial and Local Government Relationships
- The Political Economy of Resource Distributions: NFC Awards, PFC Awards

TEXT AND REFERENCE BOOKS

- Azhar, H. Nadeem (2012). Pakistan: The Political Economy of Lawlessness. Karachi:Oxford University Press. 117
- Ahmed, Vaqar (2017). Pakistan's Agenda for Economic Reform. Karachi: OxfordUniversity Press.
- Gupta, S. Dev (1997). The Political Economy of Globalization: Kluwer AcademicPublishers.
- Hagen Everett E., (1980) The Economics of Development, Richard D. Irwin, Inc.
- Kardar Shahid (1987) The Political Economy of Pakistan. Lahore: ProgressivePublishers, Pakistan.

ECON-687	HEALTH ECONOMICS
PREREQUISITE	NIL

Course aim

The aim of this course is to provide an understanding of economic theory and analytical techniques relevant to allocating resources in the health care sector and to provide a clearer focus on the central economic issues important to the financing and delivery of health care

Course content

- An introduction to the economics of health care,
- Economics and health care markets demand and supply analysis;
- Special characteristics of health care in economic analysis;
- Health care and public policy;
- Financing of health care – health insurance, economics of health reform, international comparison of health reforms;
- Future direction of health reforms.
- Economic evaluation of health care programs – cost effectiveness, cost benefit and cost utility analysis (QALYS);
- Priority setting and needs assessment in health care. Empirical studies and international comparisons.
- Selected issues in health economics – equity in health care, risk-adjusted capitation funding; provider reimbursement methods; pay for performance; single fund-holding and managed competition.

Recommended books

Santerre, R and Neun, B 2006, Health Economics: Theory and insight and industry studies, Health Administration Press.