DEPARTMENT OF ECONOMICS
BACHA KHAN UNIVERSITY CHARSADDA
REVISED CURRICULUM FOR BS/AD IN ECONOMICS

Effective For BS/AD Economics Program for the Student Admitted in Fall 2025 Semester and Onwards in the Department of Economics Bacha Khan University Charsadda, and Affiliated Colleges.

Approved by:

5th Board of Studies of Department of Economics,
11th Board of Faculty of Social Sciences, Arts and Humanities,
15th Academic Council of BKUC
and
Final approval by 36th Syndicate of BKUC.

DEPARTMENT OF ECONOMICS
BACHA KHAN UNIVERSITY
CHARSADDA, PAKISTAN
2025

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FRAMEWORK FOR BS IN ECONOMICS
(As Adopted by HEC dated July 13, 2023)

STRUCTURE

Sr.	Categories	No. of Courses Minimum	Credit Hours
1.	General Education Courses (No Choice)	15	34
2.	Interdisciplinary/ Allied Courses to be chosen from related departments	4	12
3.	Major/ Discipline-Specific Courses	28	84
4.	Field Experience/ Internship	1	3
5.	Research Thesis/ Project	1	3
Total		**49**	**136**

- Total numbers of Credit hours 136
- Duration 4 years
- Semester duration 16-18 weeks
- Semesters 8
- Course Load per Semester 15-18 Cr. hrs.
- Number of courses per semester 5-7

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LAYOUTS FOR BS IN ECONOMICS

General Education Courses (The student has no choice)		Interdisciplinary/ Allied Courses (Choose 4 Courses from the following list)		Major Courses including Field Experience/ Internship & Research Thesis	
15 Courses		**4 Courses**		**30 Courses**	
34 Credit Hours		**12 Credit Hours**		**90 Credit Hours**	
Subject	**Cr. Hrs.**	**Subject** .	**Cr. Hrs.**	**Subject**	**Cr. Hrs.**
1. Functional English	3	1. Interdisciplinary-I	3	1. Principles of Microeconomics	3
2. Islamic Studies	2	2. Interdisciplinary-II	3	2. Principles of Macroeconomics	3
3. Civics and Community Engagement	2	3. Interdisciplinary-III	3	3. Statistics for Economists-I	3
4. Expository Writings	3	4. Interdisciplinary-IV	3	4. Mathematical Economics-I	3
5. Ideology and Constitution of Pakistan	2	1. Financial Accounting-I		5. Intermediate Microeconomics	3
6. Pashto Language	2	2. Principles to Marketing		6. Economy of Pakistan	3
7. Quantitative Reasoning-I	3	3. Principles of Management		7. Statistics for Economists-II	3
8. Introduction to Political Science	2	4. Organizational Behavior		8. Money Banking & Finance	3
9. Entrepreneurship		5. Human Resource Management		9. Intermediate Macroeconomics	3
10. Quantitative Reasoning-II	2	6. Cost Accounting		10. Agriculture Economics Theory & Policy	3
11. General Science	3	7. Financial Management		11. Mathematical Economics-I	3
12. Applications of Information and Communication	3	8. Business Law		12. Development Economics	3
13. Pakistan Study	2	9. Fundamental of Commerce		13. Mathematical Economics-II	3
14. Fahm-e-Quran-I	1	10. Taxation		14. Microeconomic Analysis	3
15. Fahm-e-Quran -II	1	11. Islamic Banking and Finance		15. Basic Econometrics	3
		12. Introduction to Economic Geology of Pakistan		16. Environmental Economics Optional-I	3
				17. Macroeconomic Analysis	3
				18. Advanced Econometrics	3
				19. International Economics Optional-II	3
				20. Political Economy Optional-III	3
				21. Field Experience/ Internship	3
				22. Research Methods for Economists	3
				23. Public Sector Economics	3
				24. Monetary Economics	3
				25. History of Economics Thoughts Optional-IV	3
				26. Applied Economics	3
				27. Current Issues in Pakistan Economy	3
				28. Labor Economics Optional-V	3
				29. Financial Institutions and Capital Markets Optional-VI	3
				30. Capstone Project/Thesis	3
	34		**12**		**90**
Total Credit Hours:					**136**

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SCHEME OF STUDIES FOR BACHOLAR OF SCIENCE (BS) IN ECONOMICS

FIRST YEAR: FIRST SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
1.	ENG-311	Gen Ed-I (English-I)	Functional English	03
2.	IS-312	Gen Ed-II	Islamic Studies	02
3.	SOC-313	Gen Ed-III	Civics and Community Engagement	02
4.	PS-314	Gen Ed-IV	Pakistan Study	02
5.	QUR-300	Gen Ed-V	Fahm-e-Quran-I	01
6.	EC-311	Major-Economics	Principles of Microeconomics	03
7.	EC-312	Major-Economics	Statistics for Economists-I	03
Total Credit Hours				**16**
FIRST YEAR: SECOND SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
8.	ENG-321	Gen Ed-VI (English-II)	Expository Writings	03
9.	PS-321	Gen Ed-VII	Ideology and Constitution of Pakistan	02
10.		Gen Ed-VIII (Arts and Humanities)		02
11.	MATH-321	Gen Ed-IX (QR-I)	Quantitative Reasoning-I	03
12.	QUR-301	Gen Ed-X	Fahm-e-Quran-II	01
13.	EC-321	Major-Economics	Statistics for Economists-II	03
14.	EC-322	Major-Economics	Principles of Macroeconomics	03
Total Credit Hours				**17**
SECOND YEAR: THIRD SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
15.	MATH-326	Gen Ed-XI (QR-II)	Quantitative Reasoning-II	03
16.		Gen Ed-XII (Social Science)		02
17.	MGT-421	Gen Ed-XIII	Entrepreneurship	02
18.	EC-411	Major-Economics	Money Banking & Finance	03
19.	EC-412	Major-Economics	Intermediate Microeconomics	03
20.	EC-413	Major-Economics	Agriculture Economics Theory & Policy	03
Total Credit Hours				**16**
SECOND YEAR: FOURTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
21.		Gen Ed-XIV (Natural Science)		03
22.	CS-311	Gen Ed-XV (ICT)	Applications of Information and Communication	03

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23.	EC-421	Major-Economics	Economy of Pakistan	03
24.	EC-422	Major-Economics	Intermediate Macroeconomics	03
25.	EC-423	Major-Economics	Mathematical Economics-I	03
26.	EC-424	Major-Economics	Basic Econometrics	03
Total Credit Hours				**18**

THIRD YEAR: FIFTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
27.		Interdisciplinary-I		03
28.		Interdisciplinary-II		03
29.	EC-511	Major-Economics	Mathematical Economics-II	03
30.	EC-512	Major-Economics	Microeconomic Analysis	03
31.		Major-Economics (Optional-I)		03
32.		Major-Economics (Optional-II)		03
Total Credit Hours				**18**
THIRD YEAR: SIXTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
33.		Interdisciplinary-III		03
34.	EC-521	Major-Economics	Macroeconomic Analysis	03
35.	EC-522	Major-Economics	Islamic Economics	03
36.	EC-523	Major-Economics	Advanced Econometrics	03
37.		Major-Economics (Optional-III)		03
38.	EC-698*	Mandatory Requirement	Field Experience/ Internship	03
Total Credit Hours				**18**
FOURTH YEAR: SEVENTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
39.		Interdisciplinary-IV		03
40.	EC-611	Major-Economics	Research Methods for Economists	03
41.	EC-612	Major-Economics	Public Sector Economics	03
42.	EC-613	Major-Economics	Monetary Economics	03
43.	EC-614	Major-Economics	Development Economics	03
44.		Major-Economics (Optional-IV)		03
Total Credit Hours				**18**
FOURTH YEAR: EIGHTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
45.	EC-621	Major-Economics	Applied Economics	03
46.	EC-622	Major-Economics	Current Issues in Pakistan Economy	03
47.		Major-Economics (Optional-V)		03
48.		Major-Economics (Optional-VI)		03

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49.	EC-699	Capstone Project	Research Thesis/ Project	03
Total Credit Hours				**15**
GRAND TOTAL CREDIT HOURS				**136**

LIST OF OPTIONAL COURSES

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	EC-513	Environmental Economics	03
2.	EC-514	International Economics	03
3.	EC-515	Political Economy	03
4.	EC-516	Theories of Economic Growth	03
5.	EC-517	Population Economics	03
6.	EC-518	Industrial Economics	03
7.	EC-519	Transportation Economics	03
8.	EC-524	International Finance	03
9.	EC-525	Energy Economics	03
10.	EC-526	Institutional Economics	03
11.	EC-527	Natural Resource Economics	03
12.	EC-528	Health Economics	03
13.	EC-529	Managerial Economics	03
14.	EC-615	History of Economic Thought	03
15.	EC-616	Labor Economics	03
16.	EC-617	Financial Institutions & Capital Markets	03
17.	EC-618	Behavioral Economics	03
18.	EC-619	Introduction to Sustainable Development Goals	03
19.	EC-623	Poverty and Income Inequality	03
20.	EC-624	Financial Economics	03
21.	EC-625	Globalization and Economic Integration	03
22.	EC-626	Economics of Gender	03
23.	EC-627	Agri-Business Management	03
24.	EC-628	General Equilibrium & Welfare Economics	03

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25.	EC-629	Game Theory	03

ARTS AND HUMANITIES (Please select one Course in entire Degree)

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	PASH-324	Pashto Language*	02
2.	URD-323	Urdu Language*	02
3.	IS-320	Arabic Language*	02
4.		Turkish Language*	02
5.		Chinese Language*	02
6.	PHIL-311	Introduction to Philosophy**	02
7.	IS-323	History of Islamic Culture & Civilization**	02
8.	HIS-411	Introduction to History**	02
9.	EDU-414	Introduction to Education**	02

- Or any other language approved by BKUC *
- or any other approved course of BKUC**

SOCIAL SCIENCE (Please select one Course in entire Degree)

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	IR-311	Introduction to International Relations	02
2.	POL-314	Introduction to Political Science	02
3.	SOC-314	Introduction to Sociology	02
4.	PSY-311	Fundamental to Psychology	02
5.	EC-414	Introduction to Economics	02
6.	LAW-411	Introduction to Law	02

- Or any other approved course of BKUC relevant to Social Sciences

NATURAL SCIENCES (Please select one Course in entire Degree)

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	BOT-311	Botany (Diversity of Plants-I)	03
2.	ZOO-311	Zoology (Animals Diversity-I)	03
3.	CHEM-310	Chemistry-I	03
4.	PHY-302	Physics-I	03

- Or any other approved Course of BKUC Relevant to Natural Sciences

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Interdisciplinary/ Allied Courses (Please select 4 Course in entire Degree)

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	MGT-311	Financial Accounting-I	03
2.	MGT-313	Principles to Marketing	03
3.	MGT-322	Principles of Management	03
4.	MGT-423	Organizational Behavior	03
5.	MGT-412	Human Resource Management	03
6.	MGT-513	Financial Management	03
7.	MGT-514	Cost Accounting	03
8.	MGT-611	Business Law	03
9.	COM-311	Fundamental of Commerce	03
10.	COM-424	Taxation	03
11.	FIN-623	Islamic Banking and Finance	03
12.	GEOL-567	Introduction to Economic Geology of Pakistan	03
13.	SOC-423	Sociology of development	03

- Or any other approved Course of BKUC Relevant and interdisciplinary to economics

Standard Operating Procedures (SOPs) for Internship in BS Economics

Objective: The purpose of these Standard Operating Procedures (SOPs) is to establish a structured framework for the Internship of BS Economics students in the Department of Economics at Bacha Khan University Charsadda. This program aims to provide students with practical exposure to real-world economic environments and enhance their professional skills.

1. Program Overview:

1.1. **Duration:** The internship program is mandatory and consists of 3 credit hours, equivalent to 6 weeks of full-time work during or after the 6th Semester or in summer break after the 6th semester.

1.2. **Eligibility:** All BS Economics students are required to complete the internship program as a prerequisite for degree completion effective from fall 2025.

2. Internship Placement:

2.1. **Internship Opportunities:** The Department of Economics will collaborate with various public and private sector organizations, research institutions, and non-governmental organizations to identify suitable internship opportunities.

2.2. **Selection of Internship:** Students will be provided with a list of available internship opportunities. Students are encouraged to apply and will be selected based on merit and program requirements.

3. Internship Guidelines:

3.1. **Orientation:** Before the start of the internship, an orientation session will be conducted to brief students on program objectives, guidelines, and expectations.

3.2. **Working Hours:** Interns are expected to work a minimum of 8 hours per day during the internship, adhering to the organization's official working hours.

3.3. **Supervision:** Each intern will be assigned a supervisor from the Department and within the hosting organization who will guide and evaluate their performance.

3.4. **Tasks and Responsibilities:** Interns will be expected to undertake relevant tasks assigned by their supervisors, aligning with the organization's goals and the student's educational objectives.

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3.5. **Attendance:** Regular attendance is mandatory. Any leave or absence must be communicated to both the hosting organization and the Department of Economics.
3.6. **Reports:** Interns are required to submit regular progress reports after every 2 weeks to their academic advisor, detailing their experiences and learning during the internship.
3.7. **Evaluation:** Interns will be evaluated base d on their performance and the submission of a final report. The hosting organization's supervisor will provide feedback, and the academic advisor will assess the intern's performance.

4. Academic Assessment:

4.1. **Credit Hours:** Successful completion of the internship is mandatory for the award of 3 credit hours, which will be counted towards the student's overall CGPA and is of 100 marks.
4.2. **Grading:** Assessment will be based on the intern's performance evaluations, regular progress reports, a final report, and a presentation.

5. Code of Conduct:

5.1. **Professional Behavior:** Interns are expected to conduct themselves professionally and in accordance with the code of conduct and ethics of the hosting organization.
5.2. **Confidentiality:** Interns must respect the confidentiality and non-disclosure agreements of the hosting organization.

6. Post-Internship Evaluation:

6.1. **Feedback Session:** After the internship, students will participate in a feedback session to share their experiences and suggest improvements in the program.
6.2. **Documentation:** Students are required to maintain records of their internship tasks, accomplishments, and learning experiences.

7. Program Review:

7.1. **Annual Review:** The Department of Economics will conduct an annual review of the internship program to assess its effectiveness and make improvements as needed.

These Standard Operating Procedures are designed to ensure the successful implementation of the internship for BS Economics students at Bacha Khan University Charsadda. They are subject to review and updates as required to enhance the quality of the program.

Course Codes Distribution

The Economics codes consist of two alphabets (EC) followed by three numeric values. Each numeric value from left to right has its nomenclature as follows:

1. The first numeric value represents academic year after matriculation that is 3 represent third year after matriculation (BS first year) and in similar way 4, 5, 6 and 7 represent fourth, fifth, sixth and seventh year after matriculation, respectively.
2. The middle numeric value represents the semester if they are 1 or 2 of that academic year. Similarly, if this value is 0 then it represents the course of other department and for values other than 0, 1 and 2, this value represents the course of this department.
3. The last numeric value represents the number of course of that specific semester if applicable.

Marks Distribution

Midterm	30%
Tests/assignment/quiz/attendance/presentation	20%
Final examination	50%
Total	**100%**

Eligibility Criteria:

FA/F.Sc/FCS/D.Com or any equivalent Certificate at least 2nd division (45% Marks).

FIRST YEAR: FIRST SEMESTER

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S.NO	COURSE CODE	COURSE TYPE	COURSE TITLE	CREDIT HOURS
50.	ENG-311	Gen Ed-I (English-I)	Functional English	03
51.	IS-312	Gen Ed-II	Islamic Studies	02
52.	SOC-313	Gen Ed-III	Civics and Community Engagement	02
53.	PS-314	Gen Ed-IV	Pakistan Study	02
54.	QUR-300	Gen Ed-V	Fahm-e-Quran-I	1(0-1)
55.	EC-311	Major-Economics	Principles of Microeconomics	03
56.	EC-312	Major-Economics	Statistics for Economists-I	03
Total Credit Hours				**16**

COURSE TITLE: (ENGLISH-I) FUNCTIONAL ENGLISH
COURSE CODE: ENG-311
CREDIT HOURS: 03

Course Description

This course introduces the students to the basic grammatical rules of English language. It describes the use of grammatical structures in different contexts. The course also describes the grammatical function of words in the general use of English language. Instead of teaching grammar in isolation and only at sentence level, this course is based on developing the language abilities of the students.

This course is comprised of parts of speech, phrases and clauses, vocabulary, basic tenses, voices, direct and indirect narrations which encompasses different aspects of English language.

Course Objectives

- To enable students to understand basics of English grammar
- To teach them the use of grammar
- To acquaint them with cohesive devices and their functions in the text

Course Contents

Week	Topic	Objective	Content
1	**Introduction to English Grammar**	Understand the basics of English grammar.	Overview of grammatical structures. Role of grammar in communication.
2	**Parts of Speech I: Nouns and Pronouns**	Learn different types of nouns and pronouns.	Types and uses of nouns and pronouns. Practice identifying them in sentences.
3	**Parts of Speech II: Verbs**	Understand verb forms and tenses.	Regular and irregular verbs. Verb tenses: Present, past, future.
4	**Parts of Speech III: Adjectives and Adverbs**	Learn the function of adjectives and adverbs in sentences.	Types of adjectives and adverbs. Placement and comparison.
5	**Parts of Speech IV: Prepositions and Conjunctions**	Understand how prepositions and conjunctions link ideas.	Prepositional phrases. Coordinating and subordinating conjunctions.
6	**Sentence Structure I: Simple Sentences**	Learn to construct basic, simple sentences.	Sentence components: subject, verb, object. Sentence types and practice.
7	**Sentence Structure II: Compound Sentences**	Understand and form compound sentences.	Coordinating conjunctions (FANBOYS). Commas and semicolons in compound sentences.

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8	**Sentence Structure III: Complex Sentences**	Learn about independent and dependent clauses.	Subordinating conjunctions. Creating complex sentences.
9	**Sentence Structure IV: Compound-Complex Sentences**	Understand and construct compound-complex sentences.	Practice with sentence formation. Identifying parts of a compound-complex sentence.
10	**Vocabulary Building I: Contextual Usage**	Learn to infer meaning from context and use synonyms/antonyms.	Contextual vocabulary exercises. Using idiomatic expressions.
11	**Vocabulary Building II: Word Formation**	Learn methods like affixation, compounding, and clipping.	Word-building techniques. Practice with examples of affixation and compounding.
12	**Comprehension and Analysis I: Purpose, Audience, Context**	Identify the purpose, audience, and context of a text.	Understanding tone, bias, and assumptions. Analyzing context in reading materials.
13	**Comprehension and Analysis II: Reading Strategies**	Improve reading skills with strategies like skimming, scanning, and critical reading.	Reading strategies for academic texts. Exercises using SQ4R and critical reading methods.
14	**Effective Communication I: Principles of Communication**	Learn the principles of effective communication.	Clarity, coherence, conciseness, courteousness, correctness.
15	**Effective Communication II: Structuring Documents**	Learn to structure documents effectively.	Introduction, body, conclusion, and formatting.
16	**Final Project & Revision**	Apply all skills in a final project.	Role-plays, simulations, and real-life scenarios. Final project presentations.

SUGGESTED PRACTICAL ACTIVITIES (OPTIONAL)

As part of the overall learning requirements, students will also be exposed to relevant simulations, role-plays and real-life scenarios and will be required to apply skills acquired throughout the course in the form of a final project.

Recommended Reading

1. High School English Grammar & Composition by Wren and Martin.
2. Practical English Grammar by A.J. Thomson & A.V. Martinet. Exercises 1 & 2. 3rd edition. Oxford University Press.
3. "Comprehension: A Paradigm for Cognition" by Walter Kintsch.
4. "Practical English Usage" by Michael Swan.

COURSE TITLE: ISLAMIC STUDIES
COURSE CODE: IS-312
CREDIT HOURS: 02

Objectives:	• طلباء کرام کو اسلام کے بنیادی عقائد کا تعارف کرانا۔ • کتاب وسنت کی تعلیم سے آگاہی فراہم کرنا۔ • سیرت طیبہ کے اہم پہلوؤں کو پیش کرنا۔ • اسلامی حقوق واخلاقیات سے روشناس کرانا۔ • اسلامی تہذیب و تمدن سے آگاہی فراہم کرنا

Week	Content

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1.	<u>تعارفِ اسلام</u> اسلام کا تعارف اور اس کے بنیادی عقائد بنیادی عقائد کا تعارف (توحید، رسالت ، آخرت) تعارفِ قرآن،نزولِ قرآن اورجمع ِ قرآن
2.	<u>رسول اللہ ﷺ کی سیرت مبارکہ اور اسوۂ حسنہ</u> رسول اللہ ﷺ کے حالاتِ زندگی (بعثت سے پہلے ،مکی اور مدنی زندگی) رسول اللہ ﷺ کی حیات مبارکہ کے مختلف پہلو(ماہر تعلیم،داعئ امن ،راہنما)
3.	<u>اسلامی تہذیب وثقافت</u> قبل از اسلام کی جاہلی تہذیب اور یونانی تہذیب خلفاء راشدین، بنو امیہ اور بنو عباس کا زمانۂ خلافت تہذیبی ترقی میں مسلمانوں ماہرین کا کردار
4.	<u>فقۂ اسلامی</u> فقہ اسلامی کےاساسی مأخذ (کتاب ا للہ، سنت رسول ﷺ، اجماع، قیاس) ارکان اسلام کا تعارف اور اہمیت(نماز، زکوٰۃ ، روزہ ،حج ، جہاد) فقۂ اسلامی کے مذاہب اربعہ کا تعارف اور بنیادی اصول(حنفی، مالکی، شافعی ، حنبلی) اجتہاد کی اہمیت اور اصول
5.	<u>اسلامی کا خاندانی اور معاشرتی نظام</u> اسلام میں عورت کا مقام اور حقوق اسلام میں معذوروں، خدام، مزدوروں اور اقلیتوں کے حقوق اسلام کی نظر میں خاندانی نظام اور رشتہ داروں کے حقوق
6.	<u>اسلام اور جدید دنیا</u> جدید دور میں اسلام کو درپیش چیلنجز (اسباب اور حل) مذاہب کے مابین رواداری ے مکالمہ بین المذاہب اسلامو فوبیا وجوہات اور حل

<u>SUGGESTED INSTRUCTIONAL / READING MATERIALS</u>

1. "The five pillars of Islam: A journey through divine acts of worship" by Muhammad Mustafa Al. Azami.
2. "The five Pillars of Islam: A framework for Islamic values and character building" By Musharraf Hussain.
3. "Towards understanding Islam" BY Abu Ala Mawdudi.
4. "Islami Nazria e Hayat" By Khurshed Ahmad.

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5. "An introduction to Islamic theology" BY John Renard.
6. "Islamic civilization foundations belief & principles" By Abu Ala Mawdudi.
7. "Woman and social justice: An Islamic paradigm" By Dr. Anis Ahmad.
8. "Islam: its meaning and massage" By Khurshed Ahmad.

OURSE TITLE: CIVICS AND COMMUNITY ENGAGEMENT
COURSE CODE: SOC-313
CREDIT HOURS: 02

DESCRIPTION

This course is designed to provide students with fundamental knowledge about civics, citizenship, and community engagement, this course, the students will learn about the essentials of Civil society, government, civic responsibilities, inclusivity, and effective ways to participate in shaping the society which will help them apply theoretical knowledge to the real-world situations to make a positive impact on their communities,

COURSE LEARNING OUTCOMES

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

1. Demonstrate fundamental understanding of civics, government, citizenship and civil society.
2. Understand the concept of community and recognize the significance of community engagement for individuals and groups.
3. Recognize the importance of diversity and inclusivity for societal harmony and peaceful coexistence.

Week	Topic	Objective	Content
1	**Civics and Citizenship**	Understand the concept of civics, citizenship, and civic engagement.	Definitions of civics and citizenship. Foundations of modern society and types of citizenship.
2	**Types of Citizenship**	Learn about different types of citizenship.	Active, participatory, and digital citizenship. The roles of each type in a modern society.
3	**State, Government, and Civil Society**	Understand the structure and functions of government in Pakistan.	Overview of government systems. The relationship between democracy and civil society in Pakistan.
4	**The Right to Vote and Political Participation**	Importance of voting and political engagement.	Role of political participation and representation in a democratic society.
5	**Rights and Responsibilities**	Learn about citizens' rights and responsibilities.	Fundamental rights and liberties under the Constitution of Pakistan. Civic duties and ethical considerations.
6	**Ethical Considerations in Civic Engagement**	Explore ethics in civic engagement and public participation.	Accountability, non-violence, peaceful dialogue, and civility in civic engagement.
7	**Community Engagement**	Understand the concept of community and effective community engagement strategies.	Characteristics of communities, community development, and social cohesion.
8	**Effective Approaches to Community Engagement**	Learn about various methods of community engagement.	Case studies of successful community-driven initiatives and their impact.
9	**Advocacy and Activism**	Understand the role of advocacy and activism in addressing social issues.	Public discourse and public opinion. Social action movements and their societal impact.
10	**Role of Advocacy in Social Action**	Learn about social action movements and the impact of advocacy.	Case studies of advocacy-driven social change. Role of citizens in addressing societal issues.

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11	**Digital Citizenship and Technology**	Explore the role of technology in civic engagement.	The use of digital platforms for civic participation and the importance of cyber ethics.
12	**Cyber Ethics and Social Media**	Learn responsible use of social media and digital platforms.	Ethical considerations in digital citizenship, cyber bullying, and responsible online behavior.
13	**Digital Divides and Citizenship**	Address the digital divide and its impact on civic engagement.	Understanding disparities in access to technology and their effects on digital citizenship.
14	**Diversity, Inclusion, and Social Justice**	Understand the concepts of diversity, inclusion, and social justice in Pakistan.	Addressing social inequalities and injustices in society. Role of youth, women, and minorities in social development.
15	**Promoting Inclusive Citizenship**	Learn how to promote inclusive citizenship and equal rights for all.	Inclusive citizenship for societal harmony, peace, and coexistence.
16	**Review and Final Project**	Review of key concepts and application in a final project.	Recap of the syllabus and application of knowledge in real-life scenarios through final projects.

SUGGESTED PRACTICAL ACTIVITIES (OPTIONAL)

As part of the overall learning requirements, the course may have one or a combination of the following practical activities:

1. Community Storytelling: Students can collect and share stories from community members. This could be done through oral histories, interviews, or multimedia presentations that capture the lived experiences and perspectives of diverse individuals.

2. Community Event Planning: Students can organize a community event or workshop that addresses a specific issue or fosters community interaction. This could be a health fair, environmental clean-up, cultural festival, or educational workshop.

3. Service-Learning: Students can collaborate with a local non-profit organization or community group. They can actively contribute by volunteering their time and skills to address a particular community need, such as tutoring, mentoring, or supporting vulnerable populations.

4. Cultural Exchange Activities: Students can organize a cultural exchange event that celebrates the diversity within the community. This could include food tastings, performances, and presentations that promote cross-cultural understanding.

SUGGESTED INSTRUCTIONAL / READING MATERIALS

1. "Civics Today: Citizenship, Economics, & You" by McGraw-Hill Education.
2. "Citizenship in Diverse Societies" by Will Kymlicka and Wayne Norman.
3. "Engaging Youth in Civic Life" by James Youniss and Peter Levine.
4. "Digital Citizenship in Action: Empowering Students to Engage in Online Communities" by Kristen Mattson.
5. "Globalization and Citizenship: In the Pursuit ora Cosmopolitan Education" by Graham Pike and David Selby.
6. "Community Engagement: Principles, Strategies, and Practices" by Becky J. Feldpausch and Susan M. Omilian.
7. "Creating Social Change: A Blueprint for a Better World" by Matthew Clarke and MarieMonique Steckel.

COURSE TITLE:	**PAKISTAN STUDIES**
COURSE CODE:	**PS-314**

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CREDIT HOURS: 02

COURSE OBJECTIVES:

Develop vision of historical perspective, government, politics, contemporary Pakistan, ideological background of Pakistan and to 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-i-Azam Muhammad Ali Jinnah.
- Factors leading to Muslim separatism
- People and Land
  - i. Indus Civilization
  - ii. Muslim advent
  - iii. Location and geo-physical features.

Government and Politics in Pakistan

- Political and constitutional phases:
- 1947-58
- 1958-71
- 1971-77
- 1977-88
- 1988-99
- 1999 onward

Contemporary Pakistan

- Economic institutions and issues
- Society and social structure
- Ethnicity
- Foreign policy of Pakistan and challenges
- Futuristic outlook of Pakistan

COURSE RECOMMENDED BOOKS:

1. Amin, Tahir. (1999). Ethno-National Movement in Pakistan. Islamabad: Institute of Policy Studies, Islamabad.
2. Burke,S.M and Ziring,Lawrence. (1993). Pakistan's Foreign policy: An Historical analysis. Karachi: Oxford University Press,
3. Mehmood, Safdar. (2001). Pakistan KayyunToota. Lahore: Idara-e-Saqafat-e-Islamia. Club Road Press.
4. Mehmood, Safdar. (1994). Pakistan Political Roots & Development. Lahore.
5. Waseem ,Muhammad. (1987). Pakistan Under Martial Law. Lahore: Vanguard.
6. Zaidi,Akbar. S.(2000). Issue in Pakistan's Economy. Karachi: Oxford University Press.

OURSE TITLE: FAHM-E-QURAN – I
COURSE CODE: QUR-300

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CREDIT HOURS: 1(0-1)

Course Title: Understanding of Quran – I
Course Book: Muallim ul Quran (Volume 1, 2 & 3) by Dr Ubaid ur Rahman

Credit Hours: 1 (0-1)
Contact Hours: 3 per week
Weeks: 15-16 (45-48 hours)

Course Learning Outcomes:

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

1. Develop the ability to understand basic words of the Quran, phrases and sentences that do not contain verbs (unit 1 to 5 of Muallim ul Quran Book) and then sentences having present tense (first half of unit 6 of Muallim ul Quran Book).
2. Acquire a strong foundation for understanding long verses of the Quran with clarity.
3. Comprehend Quranic vocabulary, particles (operative & non operative particles) , compounds (Adjective & Possessive compound), pronouns (singular & plural) and types of plural through hundreds of Quranic sentences.
4. Recognize and understand different styles of Quranic sentences, including nominal sentence, emphatic sentence, double emphatic sentence, negative sentence, interrogative sentence, oath –based sentences.
5. Strengthen understanding of fundamental Quranic linguistic styles, expressions and idioms.
6. Understand at least 30 to 40 % of each page of the holy Quran.

Provision of material, content and books:

- **Paper book**: All volumes are available in printed book form.
- **Tutorial videos:** Teaching video of each lesson available on YouTube.
- **Confirmation Videos:** A complete series of confirmation videos of all lessons is available in which the student can confirm his answers.
- **A flipbook:** A flipbook edition is also accessible.
- **Helping material:** Helping material for the teachers like quizzes, question papers and images is available on website.

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Course Outline:

Weeks	Lectures (1.5 hrs)	Units	Lessons	Assignments/Home Task	Linguistic Rules
1.	1.	1	1-6	Writing the meaning of Quranic words Lesson 1-8	Proper Noun Masculine & Feminine
	2.	1	9-14	Writing the meaning of Quranic words 9-14	Two kinds of plural Concept of (و) "And" Common Noun
2.	1.	1	15-17	Writing the meaning of Quranic words, phrases & translation of Sentences 15-17	Demonstrative Noun (This & That for Masculine (هذا- هذه) Demonstrative Noun (This & That for Feminine) (ذلك- تلك)
	2.	1	18-19 & Revision (Unit 1)	Writing the meaning of Quranic words , phrases & translation of Sentences 17-19 Quiz	Laam for emphasis (لام التأكيد) Superlative Degree like أكبر Revision of all Quranic Sentences
3.	1.	Unit 2	1-3	Writing the meaning of Quranic words, phrases & translation of Sentences 1-3	Emphatic Particle إن Preposition "For" (اللام) Preposition (في)
	2.	2	4-6	Writing the meaning of Quranic words, phrases & translation of Sentences 4-6	Preposition (على- من- إلى)
4.	1.	2	7- 9	Writing the meaning of Quranic words & translation of Sentences 7-9	Preposition (الباء) Absolute Negation Particle Exceptive Particle (لا النافية (إلا) (ما النافية)(للجنس	
	2.	2	10-13 & Revision (Unit 2)	Writing the meaning of Quranic words, phrases & translation of Sentences 10-13 Quiz	Subordinating Conjunction(أن), Was (كان), Vocative Particle(حرف النداء)

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5.	1.	Unit 3	1-2	Writing the meaning of Quranic phrases 1-2	Quranic Adjective Compounds (صفة وموصوف)
	2.	3	3-5	Writing the meaning of Quranic phrases & translation of sentences 3-5	Quranic Possessive Construction (مضاف ومضاف إليه)
6.	1.	3	6 -7	Writing the meaning of Quranic phrase translation of sentences 6-7	Quranic Possessive Construction (مضاف ومضاف إليه)
	2.	3	8-10 & Revision (Unit 3)	Writing the meaning of Quranic phrase & translation of sentences 8-10 Quiz	Active Participle (اسم الفاعل), Passive Participle (اسم المفعول), Dual (مثنى)
7.	1.	Unit 4	1-2	Writing the meaning of Quranic phrase & translation of sentences 1-2	Personal Pronoun He(هو المنفصل) Possessive Pronoun His ـه المتصل)
	2.	4	3-4	Writing the meaning of Quranic phrase & translation of sentences 3 -4	Possessive Pronoun with prepositions في بيته like Pronoun "His" with prepositions like له، منه، فيه
8.	1.	4	5-8	Writing the meaning of Quranic sentences 5-8	Personal Pronoun You(أنت المنفصل) Possessive Pronoun Your ك المتصل) Possessive Pronoun with prepositions في بيتك like Pronoun "your" with prepositions like لك، منك، فيك
	2.	Mid Term			

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9.	1.	4	9-12	Writing the meaning of Quranic phrases & sentences 9-12	Personal Pronoun She(هي المنفصل) Possessive Pronoun Her ها المتصل) Possessive Pronoun with prepositions like في بيتها Pronoun "Her" with prepositions like لها،
	2.	4	13-16	Writing the meaning of Quranic phrases & sentences 13-16	Personal Pronoun I (أنا المنفصل) Possessive Pronoun Her ي المتصل) Possessive Pronoun with prepositions like في بيتيPronoun "My" with prepositions like لي
10.	1	4	17 & Revision Unit 4	Revision of all Quranic sentences of Unit 4 Quiz	Adverb (حال)
	2.	Unit 5	1-2	Writing the meaning of Quranic phrases & sentences 1-2	Masculine Plural جمع المذكر السالم و جمع المذكر السالم المسبوق بحرف الجر
11.	1.	5	3-4	Writing the meaning of Quranic phrases & sentences 3-4	Possessive Construction with Plurals جمع المذكر السالم المسبوق بالإضافة
	2.	5	5-6	Writing the meaning of Quranic phrases, sentences & verses 5-6	Personal Pronoun They (هم المنفصل) Possessive Pronoun Their هم المتصل)
12.	1.	5	7-8	Writing the meaning of Quranic phrases, sentences & verses 7-8	Possessive Pronoun with prepositions like في بيتهمPronoun "Their" with prepositions like لهم
	2.	5	9-11	Writing the meaning of Quranic phrases, sentences & verses 9-11	Personal Pronoun You (أنتم المنفصل) Possessive Pronoun Your كم المتصل) Possessive Pronoun with prepositions

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					في بيتكم like
13.	1.	5	12-14	Writing the meaning of Quranic phrases & sentences & verses 12-14	Pronoun "Your" with prepositions like لكم Personal Pronoun We (نحن المنفصل) Possessive Pronoun Our نا المتصل)
	2.	5	15-16	Writing the meaning of Quranic sentences & verses 15-16	Possessive Pronoun with prepositions في بيتنا like Pronoun "Our" with prepositions like لنا
14.	1.	5	17-18	Writing the meaning of Quranic sentences & Verses 17-18	Demonstrative Pronoun These, Those (هؤلاء- أولئك)
	2.	5	19-23	Writing the meaning of Quranic sentences & Verses 19-23	ما / إلا، إن / إلا، إنما، ليس، ما ،) (أ/أم، أن، بل، كأن (ألا، أليس، اليوم، يومئذ، سبحان، مابينهما، قل، إذن، بئس، نعم، كلا، ما أدراك، حسب، أعلم ب، مصير، مرجع، دينا(تمييز)
15.	1.	5	Revision Unit 5	Quiz	
	2.	5	1-3 (till Page 16)	Writing the meaning of Quranic Verbs &Translation of Quranic Sentences & Verses (1-3)	Introduction of Present Tense(فعل مضارع) & Verbal Sentence (جملة فعلية) Present Tense الفعل المضارع صيغة المفرد يعلم
16.	1.	6	3 (From Page 17) & 4 -5	Translation of Quranic Sentences & Verses 3-5	Present Tense الفعل المضارع صيغة المفرد يعلم
	2.	6	6	Translation of Quranic Sentences & Verses	Present Tense الفعل المضارع صيغة الجمع يعلمون

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COURSE TITLE:	**PRINCIPLES OF MICROECONOMICS**
COURSE CODE:	**EC-311**
CREDIT HOURS:	**03**

Objectives

The course is designed for the beginners with either no formal background or very little acquaintance with economics. The objective is to give the students with a clear understanding of the basic concepts, tools of analysis and terminologies used in microeconomics. Emphasis will be on the use of graphs, diagrams and numerical tables/schedules for exposition. The teacher is expected to draw examples from the surrounding world to clarify the concepts.

Course Contents

Week	Topic	Objective	Content
Week 1	Introduction	Understand the basics of economics and its role in society.	- Overview of the social system- Economy as an integral part of the social system- 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
Week 2	The Price Mechanism I - Market Economy	Learn about the concept of a market economy.	- The concept of a market economy- Laws of demand and supply- Schedules & graphs of demand and supply- Market equilibrium and determination of price
Week 3	The Price Mechanism II - Demand & Supply	Understand the laws of demand and supply.	- Movement along and shifting of demand and supply curves- Concept of elasticity of demand and supply- Importance of elasticity
Week 4	Consumer's Behavior I	Learn about consumer behavior and utility theory.	- Consumers/households as economic agents- Problem of the consumers- The utility theory- Laws of diminishing marginal utility and equip-marginal utilities
Week 5	Consumer's Behavior II - Equilibrium	Study the concepts of consumer equilibrium.	- Budget constraint and consumer's equilibrium- Individual demand and market demand- Introduction to demand elasticity
Week 6	Firms and Industries I	Understand business enterprises and organizational forms.	- Business enterprises- Forms of business organization: Proprietorship, Partnership, Joint stock companies, Multi-national corporations
Week 7	Firms and Industries II - Objectives	Learn about the objectives of firms.	- Classification of the firms- Production and supply of commodities (goods and services)- Objectives of the firm: The profit motive, Output maximization and cost minimization
Week 8	Production and Cost Functions I	Study the production function and input types.	- Production function- Primary inputs: factors of production- Secondary/intermediate inputs: Raw material and energy- The laws of returns
Week 9	Production and Cost Functions II - Revenues	Learn about the revenue generation in firms.	- Revenues of the firm: total, average, and marginal revenues- Cost function: Total, average, and marginal costs
Week 10	Production and Cost Functions III - Costs	Understand short-run and long-run cost concepts.	- Short-run and long-run costs- Equilibrium of the firm
Week 11	Market Structure I - Perfect Competition	Learn about perfect competition and its characteristics.	- Classification of markets according to nature of commodity, extent, time, and degree of competition- Perfect competition among buyers and sellers
Week 12	Market Structure II - Imperfect	Understand imperfect competition like	- Imperfect competition: Monopoly and Monopsony- Monopolistic competition- Price determination

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	Competition	monopoly.	
Week 13	Market Structure III - Price Regulation	Learn the need for market regulation and the government role.	- The need for market regulation- Role of the government- Public goods and their provision beyond the market
Week 14	Industrial Structure & Market Supply	Explore industrial structure and market supply.	- Industrial structure & market supply- Classification of market types
Week 15	Advanced Market Structures	Study more complex market structures and their regulation.	- Deeper analysis of market structures: Monopolies, Oligopolies, and monopolistic competition
Week 16	Review and Final Exam Preparation	Review key concepts and prepare for the final exam.	- Recap of all topics covered during the semester- Review problems- Q&A session for exam preparation

Recommended Books

- Mankiw, G. - Principles of Economics - 2nd Edition (2001), South-West Publishers.
- Samuelson and Nordrons - Economics –18th Edition (2004)-McGraw Hill.
- Economics: A Very Short Introduction" by Partha Dasgupta (Latest Available Edition)

COURSE TITLE: STATISTICS FOR ECONOMISTS-I
COURSE CODE: EC-312
CREDIT HOURS: 03

COURSE OBJECTIVE

The main objectives of the course are to enhance students‟ competency in application of statistics to solve economic problems in practical life and to improve their level of quantitative sophistication for further advanced business analysis.

INDENTED LEARNING OUTCOMES

At the conclusion of this course, the student will be:

1. Data description and data presentation in a economic environment;
2. Measures of Central Tendency
3. Measure of Relative Dispersion
4. Use of index numbers
5. Basic probability concepts and probability distributions as an aid to economic decision making.

COURSE CONTENTS

Week	Topic	Objective	Content
Week 1	**Statistics and Statistical Thinking**	Understand the basics of statistics and its importance.	- The Science of Statistics and its importance- Fundamental Elements of Statistics- The Role of Statistics in Critical Thinking and Ethics
Week 2	**Organizing Data I - Types of Variables**	Learn about different types of data and measurement scales.	- Types of Variables- Measurement Scales (Nominal, Ordinal, Interval, and Ratio scale)
Week 3	**Organizing Data II - Data Collection Methods**	Understand data collection techniques and presentation.	- Data Collection Methods- Presentation of data through classification, tabulation, diagrams, and graphs
Week 4	**Descriptive Measures of Location I - Central Tendency**	Learn about measures of central tendency.	- Mean, Median, Mode, Geometric Mean, Quartiles, Deciles & Percentiles
Week 5	**Descriptive Measures of Location II - Dispersion**	Understand measures of data dispersion.	- Measures of Dispersion: Range, Mean Absolute Deviation, Standard Deviation, Coefficient of Variation, Boxplots
Week 6	**Index Numbers I - Introduction and Basics**	Understand the concept and types of index numbers.	- Defining an Index Number- Un-weighted Aggregates Index- Weighted Aggregates Index
Week 7	**Index Numbers II - Advanced Methods**	Learn about advanced methods in index number	- Average of Relative Methods- Quantity and Value Indices

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		calculations.	
Week 8	**Time Series Analysis I - Introduction**	Learn the components of time series and data depersonalization.	- Introduction to Time Series- Components of Time Series- Depersonalization of Data
Week 9	**Time Series Analysis II - Data Representation**	Understand how to visualize and analyze time series data.	- Graphing Time Series- Identifying trends and cycles in time series
Week 10	**Probability I - Introduction**	Learn the fundamentals of probability theory.	- Probability Theory- Rules of Probability
Week 11	**Probability II - Bayes' Theorem**	Learn and apply Bayes' Theorem.	- Bayes' Theorem and its applications
Week 12	**Random Variable and Discrete Distributions I**	Understand discrete random variables and distributions.	- Discrete Random Variables- Mean and Standard Deviation of a Discrete Random Variable
Week 13	**Random Variable and Discrete Distributions II**	Learn about discrete probability distributions.	- The Binomial, Poisson, and other discrete distributions
Week 14	**The Normal Distribution I - Central Limit Theorem**	Understand the normal distribution and central limit theorem.	- Central Limit Theorem- Introducing Normally Distributed Variables
Week 15	**The Normal Distribution II - Working with Data**	Learn to work with normally distributed data.	- Areas under the Standard Normal Curve- Working with Normally Distributed Variables
Week 16	**The Normal Distribution III - Assessing Normality**	Assess the normality of data and apply normal probability plots.	- Assessing Normality- Normal Probability Plots

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TEXT/REFERENCE BOOKS:

1. David, S Moore et.al, Introduction to the Practice of Statistics, 6th Edition WH. Freeman.
2. Levin I. Richard., Statistics for Management, 4th ed; McGraw Hill.
3. Engle wood Cliffs, New Jersey, Prentice Hall International, 1987.
4. Michael J. Evans & Jeffrey S. Rosenthal, Probability and Statistics, WH Freeman
5. Starr K. Martian & Sobal Gross Marion, Statistics for Business and Economics, 1st Ed; New York, McGraw Hill, International, 1983.
6. Walpole, R, Introduction to Statistics, Edition 3
7. Shaum and Seigel, Statistics for Business (Latest Edition)

FIRST YEAR: SECOND SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
57.	ENG-321	Gen Ed-VI (English-II)	Expository Writings	03
58.	PS-321	Gen Ed-VII	Ideology and Constitution of Pakistan	02
59.		Gen Ed-VIII (Arts and Humanities)		02
60.	MATH-321	Gen Ed-IX (QR-I)	Quantitative Reasoning-I	03
61.	QUR-301	Gen Ed-X	Fahm-e-Quran-II	1(0-1)
62.	EC-321	Major-Economics	Statistics for Economists-II	03
63.	EC-322	Major-Economics	Principles of Macroeconomics	03
Total Credit Hours				**17**

COURSE TITLE: (ENGLISH-II) EXPOSITORY WRITINGS
COURSE CODE: ENG-321
CREDIT HOURS: 03

Course Description:

The course is designed to help students take a deep approach in reading and writing academic texts which involve effective learning strategies and techniques to improve their productive skills. This

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course consists of two major parts: the 'reading section' focuses on recognizing topic sentence, skimming, scanning, use of cohesive devices, identifying facts and opinions, and to guess meanings of unfamiliar words. The 'writing section' deals with the knowledge and use of various grammatical components such as, parts of speech, tenses, voice, narration, modals etc. in practical contexts.

Course Objectives:

- To enable students, identify the audience, message, and purpose of writing.
- To demonstrate the ability to compose at an intermediate level the for different areas of expository writing.
- To demonstrate a broadened knowledge of how evaluating media and text influences the world around them.

Course Content:

1. Introduction to Expository Writing:

- Understanding expository writing (definition, types, purpose and applications)
- Characteristics of effective expository writing (clarity, coherence and organization)

2. The Writing Process:

- Introduction to paragraph writing
- Pre-writing techniques (brainstorming, free-writing, mind-mapping, listing, questioning and out-lining etc.)
- Drafting (three stage process of drafting techniques)
- Revising and editing (ensuring correct grammar, clarity, coherence, conciseness etc.)
- Proof reading (fine-tuning of the draft)
- Peer review and feedback (providing and receiving critique)

3. Essay Organization and Structure:

- Introduction and hook (engaging readers and introducing the topic)
- Thesis statement (crafting a clear and focused central idea)
- Body Paragraphs (topic sentences, supporting evidence and transitional devices)
- Conclusion (types of concluding paragraphs and leaving an impact)
- Ensuring cohesion and coherence (creating seamless connections between paragraphs)

4. Different Types of Expository Writing:

- Description
- Illustration Classification
- Cause and effect (exploring causal relationships and outcomes)
- Process analysis (explaining step-by-step procedures)
- Comparative analysis (analyzing similarities and differences)

5. Writing for Specific Purposes and Audiences:

- Different types of purposes (to inform, to analyze, to persuade, to entertain etc.)
- Writing for academic audiences (formality, objectivity, and academic conventions)
- Writing for public audiences (engaging, informative and persuasive language) Different tones and styles for specific purposes and audiences

6. Ethical Considerations:

- Ensuring original writing (finding credible sources, evaluating information etc.)
- Proper citation and referencing (APA, MLA, or other citation styles)
- Integrating quotes and evidences (quoting, paraphrasing, and summarizing) Avoiding plagiarism (ethical considerations and best practices)

Recommended Readings

1. "Writing Analytically" by David Rosenwasser and Jill Stephen.

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2. College Writing Skills by John Langan. MC-Graw-Hill Higher Education 2004
3. Critical Reading and Writing: An Introductory Course by Goatly, A. 2000. London: Taylor & Francis
4. "They Say/I Say: The Moves That Matter in Academic Writing" by Gerald Graff and Cathy Birkenstein.

COURSE TITLE:	**IDEOLOGY AND CONSTITUTION OF PAKISTAN**
COURSE CODE:	**PS-321**
CREDIT HOURS:	**02**

COURSE OBJECTIVES

This course is designed to provide students with the fundamental exploration of the ideology and the constitution of Pakistan. The course focuses on the underlying principles, beliefs, aspirations that have been instrumental in shaping the creation and development of Pakistan as a sovereign state. Moreover, the course will enable students to understand the core provisions of the constitution of the Islamic Republic of Pakistan concerning the fundamental rights and responsibilities of Pakistani citizens to enable them function in a socially responsible manner.

LEARNING OUTCOMES

After studying the course, students will be able to:

- Demonstrate enhanced knowledge of the basis of the ideology of Pakistan with special reference to the contributions of the founding fathers of Pakistan.
- Demonstrate fundamental knowledge about the constitution of Pakistan 1973 and its evolution with special reference to state structure.
- Explain about the guiding principles on rights and responsibilities of Pakistani citizens as enshrined in the constitution of Pakistan 1973.

COURSE OUTLINE

UNDERSTANDING IDEOLOGY AND IDEOLOGY OF PAKISTAN

- Definition and significance of Ideology
- Historical context of the creation of Pakistan (with emphasis on socio-political, religious and cultural dynamics of British India between 1857 till 1947).
- Contribution of founding fathers of Pakistan in the freedom movement including but not limited to Allama Muhammad Iqbal, Muhammad Ali Jinnah, etc.
- Contribution of women and students in the freedom movement for separate homeland for Muslims of Briths India.

TWO-NATION THEORY

- The Evolution of Two-Nation Theory in British India
- Urdu- Hindi Controversy
- Partition of Bengal (1905)
- Simla Deputation (1906)
- Allahabad Address (1930)
- Congress Ministries (1937-1939)
- Lahore Resolution (1940)
- Role of Communalism and Religious Differences

UNDERSTANDING CONSTITUTION AND CONSTITUTION OF PAKISTAN

- The need and importance of a constitution
- Constitutional delay in Pakistan (1947-1956)
- Ideological factors that shaped the constitution of Pakistan
- Objective Resolution (1949)
- Major Constitutional developments in Pakistan: An Overview

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CONSTITUTION AND STATE STRUCTURE

- Understanding the structure of Government with reference to Pakistan
- Structure and Role of Executive
- Structure and Role of Legislators
- Structure and Role of Judiciary

FUNDAMENTAL RIGHTS, PRINCIPLES OF POLICY AND RESPONSIBILITIES

- What are fundamental Rights under 1973 constitution of Pakistan?
- Articles 8-28 of 1973 Constitution of Pakistan
- Responsibilities of Pakistani Citizens under Article 5 of the 1973 Constitution of Pakistan

MAJOR CONSTITUTIONAL AMENDMENTS

- The need of Constitutional Amendment
- Amendment Procedure under 1973 constitution of Pakistan
- Notable Constitutional Amendments
- Second Constitutional Amendment to 1973 Constitution
- Seventh Constitutional Amendment to 1973 Constitution
- Eight Constitutional Amendment to 1973 Constitution
- Thirteenth Constitutional Amendment to 1973 Constitution
- Fourteenth Constitutional Amendment to 1973 Constitution
- Seventeenth Constitutional Amendment to 1973 Constitution
- Eighteenth Constitutional Amendment to 1973 Constitution

COURSE TITLE: QUANTITATIVE REASONING-I
COURSE CODE: MATH-313
CREDIT HOURS: 03

- Twenty First (21st) Constitutional Amendment to 1973 Constitution

SUGGESTED BOOKS AND READING

1. Sayeed, Khalid B. Pakistan: The Formative Phase 1857-1948. Karachi: Oxford University Press, 1968.
2. Husain, Mahmud. A History of the Freedom Movement: Being the Story of Muslim Struggle for the Freedom of Hind-Pakistan, 1707-1947. Karachi: Pakistan Historical Society, 1960.
3. Qureshi, Ishtiaq Husain. The Struggle for Pakistan. Karachi: University of Karachi, 1965.
4. Aziz, K.K. (1976) "Party Politics in Pakistan, Islamabad: National Commission on Historical and Cultural Research".
5. Mazher ul Haq. *Theory and Practice in Political Science*. Lahore: Bookland, 1996.
6. Ian Mackenzi (Ed.). *Political Concepts: A Reader and Guide*. Edinburgh, University Press, 2005.
7. Mohammad Sarwar, *Introduction to Political Science*, Lahore: Ilmi Kutub Khana, 1996.
8. Choudhary, G.W. 1969.Constitutional Development in Pakistan. Lahore: Ideal Book House. Feldman, Herbert. 2001. The Herbert Feldman Omnibus. Karachi: Oxford University Press.
9. Jalal, Ayesha. Democracy and Authoritarianism in South Asia: A Comparative and Historical Perspective. K.K. Aziz. 1976. Party Politics in Pakistan. Islamabad: National Commission on Historical and Cultural Research.
10. Khan, Hamid. 2001. Constitutional and Political History of Pakistan. Karachi: Oxford University Press.

Week	Topic	Objective	Content
Week 1	**Numerical Literacy I - Number System and Basic Arithmetic**	Understand the number system and basic arithmetic operations.	- Number system (integers, fractions, decimals, real numbers)- Basic arithmetic operations (addition, subtraction, multiplication, division)
Week 2	**Numerical Literacy II - Units and Conversions**	Learn about units of measurement and	- Units of measurement- Unit conversions (length, weight, time, volume, etc.)-

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		conversions.	Dimensional analysis
Week 3	**Numerical Literacy III - Rates, Ratios, and Percentages**	Understand and apply rates, ratios, and percentages.	- Rates, ratios, and proportions- Percentages and their applications- Solving real-world problems involving rates and percentages
Week 4	**Numerical Literacy IV - Data Types and Presentation**	Learn about types of data and methods of presenting data.	- Types and sources of data- Measurement scales (nominal, ordinal, interval, ratio)- Tabular and graphical presentation of data (bar charts, histograms, etc.)
Week 5	**Fundamental Mathematical Concepts I - Basic Geometry**	Understand basic geometric concepts.	- Lines, angles, circles, and polygons- Basic geometric constructions and formulas (area, perimeter, volume)
Week 6	**Fundamental Mathematical Concepts II - Sets and Operations**	Learn about sets, set operations, and relations.	- Sets and their operations (union, intersection, difference)- Venn diagrams- Relations and functions
Week 7	**Fundamental Mathematical Concepts III - Functions and Graphs**	Explore functions and their graphical representations.	- Functions and their properties- Graphing functions (linear, quadratic, etc.)- Identifying function types and behavior
Week 8	**Fundamental Mathematical Concepts IV - Exponents and Factoring**	Learn about exponents and factoring techniques.	- Exponents and their properties- Factoring algebraic expressions- Simplifying expressions
Week 9	**Fundamental Mathematical Concepts V - Algebraic Equations**	Solve linear and quadratic equations and inequalities.	- Algebraic solutions of linear and quadratic equations- Graphical solutions of linear equations and inequalities
Week 10	**Fundamental Mathematical Concepts VI - Quantitative Reasoning**	Apply fundamental mathematical concepts in problem-solving.	- Quantitative reasoning exercises using number knowledge and basic concepts
Week 11	**Fundamental Statistical Concepts I - Population and Sample**	Understand populations and samples in statistics.	- Population and sample definitions- Sampling techniques and their importance
Week 12	**Fundamental Statistical Concepts II - Measures of Central Tendency and Dispersion**	Learn to calculate and interpret measures of central tendency and dispersion.	- Mean, median, mode- Range, variance, and standard deviation- Interpreting data distributions
Week 13	**Fundamental Statistical Concepts III - Data Interpretation**	Apply data interpretation techniques.	- Data interpretation using statistical measures- Identifying patterns and trends in data
Week 14	**Fundamental Statistical Concepts IV - Rules of Counting**	Understand basic counting principles and combinatorics.	- Multiplicative rule- Permutation and combination principles- Practical applications of counting techniques
Week 15	**Fundamental Statistical Concepts V - Probability Theory**	Introduction to probability theory and random variables.	- Basic probability theory- Random variables and their probability distributions- Solving real-world probability problems
Week 16	**Review and Application of Concepts**	Review and apply all concepts learned in real-world problems.	- Review of all topics covered- Application of learned concepts in comprehensive problem-solving exercises

Recommended Books:

1. Quantitative Reasoning: Tools for Today's Informed Citizen" by Bernard L. Madison. Lynn and Arthur Steen.
2. "Quantitative Reasoning for the Information Age" by Bernard L. Madison and David M. Bressoucl.
3. "Fundamentals of Mathematics' • by Wade Ellis.
4. Quantitative Reasoning: Thinking in Numbers" by Eric Zaslow.
5. 'Thinking Clearly with Data: A Guide to Quantitative Reasoning and Analysis" by Ethan Bueno de Mesquita and Anthony Fowler.
6. "Using and Understanding Mathematics: A Quantitative Reasoning Approach" by Bennett, J.O., Briggs, W. L., & Badalamenti, A.
7. "Discrete Mathematics and its Applications" by Kenneth H. Rosen.

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OURSE TITLE:	**FAHM-E-QURAN – II**
COURSE CODE:	**QUR-301**
CREDIT HOURS:	**1(0-1)**

Course Book: Muallim ul Quran (Volume 3, 4 & 5) by Dr Ubaid ur Rahman

Credit Hours: 1 (0-1)
Contact Hours: 3 per week
Weeks: 15-16 (45-48 hours)

Course Learning Outcomes:

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

1. Directly comprehend hundreds of Quranic sentences & verses.
2. Understand at least 80 to 85 % of each page of the holy Quran.
3. Understand common verses across different Quranic topics.
4. Achieve proficiency in the basic and advance linguistic aspects of the Arabic language.
5. Understand the difference between Quranic verbs in various forms, such as present, past and imperative.
6. Develop the ability to understand long verses of the holy Quran independently and then comprehend their interpretation.

Provision of material, content and books:

- **Paper book**: All volumes are available in printed book form.
- **Tutorial videos:** Teaching video of each lesson available on YouTube.
- **Confirmation Videos:** A complete series of confirmation videos of all lessons is available in which the student can confirm his answers.
- **A flipbook:** A flipbook edition is also accessible.
- **Helping material:** Helping material for the teachers like quizzes, question papers and images is available on website.

Course Outline:

Weeks	Lectures	Units	Lessons	Assignments/Home Task	
1.	1.	6	6	Understanding & Translation of Verses	Present Tense صيغة جمع مذكر غائب مثل يعبدون
	2.	6	7-8	Understanding & Translation of Verses	Present Tense صيغة جمع مذكر غائب مثل يعبدون
2.	1.	6	9-10	Understanding & Translation of Verses	Present Tense صيغة مفرد مذكر مخاطب (تعبد) وجمع مذكر مخاطب (تعبدون)
	2.	6	11-12	Understanding & Translation of Verses	Present Tense صيغة جمع مذكر مخاطب (تعبدون)

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					صيغة المتكلم (أعبد)
3.	1.	6	13	Understanding & Translation of Verses	Present Tense صيغة جمع المتكلم (نعبد)
	2.	6	14-15	Understanding & Translation of Verses	Negative Imperative صيغة المفرد وصيغة الجمع , لا تعبدْ، لا تعبدوا
4.	1.	6	16-17	Understanding & Translation of Verses	Conditional Sentences & masdar moawal (مصدر موؤل)
	2.	6	18-19	Understanding & Translation of Verses	Laam uttaleel (لام التعليل) & Laam ul jhood(لام الجحود)
5.	1.	6	20-21	Understanding & Translation of Verses	Present with object pronouns & Passive Voice
	2.	6	Revision (Unit 6)	Quiz	
6.	1.	Unit 7	1 (sec 1-3)	Understanding & Translation of Verses	Past Tense صيغة المفرد الغائب
	2.	6	1 (Sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة المفرد للغائب
7.	1.	6	1 (Sec 5-6)	Understanding & Translation of Verses	Past Tense صيغة المفرد للغائب
	2.	6	1 (Sec 7-9)	Understanding & Translation of Verses	Past Tense صيغة المفرد للغائب
8.	1.	7	Revision	Understanding & Translation of Verses QUIZ	Past Tense صيغة المفرد للغائب
	2.	MID TERM			
9.	1.	7	2 (sec 1-2)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
	2.	7	2 (sec 3)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
10.	1.	7	2 (sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
	2.	7	2 (sec 6-7)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا

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11.	1.	7	3 (sec 1-2)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمتكلم عبدنا

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	2.	7	3 (sec 2-3)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمتكلم عبدنا
12.	1.	7	3 (sec 3-4)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمتكلم عبدنا
	2.	7	3 (sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمتكلم عبدنا
13.	1.	7	4 (sec 1-2-3)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمخاطب عبدتم
	2.	7	4 (sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمخاطب عبدتم
14.	1.	7	5-6	Understanding & Translation of Verses	Past Tense صيغة المتكلم والمخاطب عبد ت ، عبد ْت
	2.	7	7	Understanding & Translation of Verses	Past Tense صيغة المؤنث للغائب عب ْدتْ
15.	1.	7	8	Understanding & Translation of Verses	Passive Voice (Past Tense) فعل مجهول للمفرد
	2.	7	9	Understanding & Translation of Verses	Passive Voice (Past Tense) فعل مجهول الجمع
16.	1.	8	1-4	Understanding & Translation of Verses	Imperative Verb for singular فعل الأمر للمفرد
	2.	7	5-8	Understanding & Translation of Verses	Imperative Verb for plural فعل الأمر للجمع

COURSE TITLE: PRINCIPLES OF MACROECONOMICS
COURSE CODE: EC-322
CREDIT HOURS: 03

Objectives

The course is designed for the beginners with no formal background or little acquaintance with economics. The objective is to give the students with a clear understanding of the basic concepts, tools of analysis and terminologies used in macroeconomics. Emphasis will be on the use of graphs, diagrams and numerical tables/schedules for exposition. The teacher is expected to draw examples from the surrounding world to clarify the concepts.

Course Contents

Week	Topic	Objective	Content
Week 1	**Introduction to Macroeconomics**	Understand the basics of macroeconomics and its scope.	- What is macroeconomics?- Key topics: GDP, unemployment, inflation- Difference between microeconomics and macroeconomics
Week 2	**Economic Systems**	Learn about different economic systems.	- Types of economies: market, command, and mixed- Key features of

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			each system
Week 3	**Gross Domestic Product (GDP)**	Understand what GDP is and how it's measured.	- What is GDP?- How is GDP calculated (expenditure approach)?- Difference between real and nominal GDP
Week 4	**Understanding Unemployment**	Learn about unemployment and the labor market.	- Types of unemployment (frictional, structural, cyclical)- Labor force and unemployment rate
Week 5	**Inflation and Its Measurement**	Understand inflation and how it's measured.	- What is inflation?- Consumer Price Index (CPI)- Causes and effects of inflation
Week 6	**Aggregate Demand and Supply**	Learn the basic AD-AS model and what affects it.	- What is aggregate demand?- What is aggregate supply?- The AD-AS model explained
Week 7	**Macroeconomic Equilibrium**	Understand how the economy reaches equilibrium.	- What is macroeconomic equilibrium?- How government policies impact equilibrium
Week 8	**Fiscal Policy**	Learn how government spending and taxation affect the economy.	- What is fiscal policy?- Government spending and taxes- The role of fiscal policy in stabilizing the economy
Week 9	**Monetary Policy and Central Banks**	Learn about the role of central banks and money supply.	- What is monetary policy?- Role of central banks- How interest rates control inflation and money supply
Week 10	**The Banking System**	Understand how banks create money and their role in the economy.	- How banks create money- The role of commercial banks- The Federal Reserve or Central Bank
Week 11	**Economic Growth**	Learn the factors that lead to economic growth.	- What is economic growth?- Key factors of growth: Capital, technology, labor- Basic growth theories
Week 12	**Business Cycles**	Understand the cycles of economic expansions and recessions.	- What are business cycles?- Phases: Expansion, peak, contraction, recession- Causes of business cycles
Week 13	**International Trade**	Learn the basics of trade between countries.	- What is international trade?- Benefits of trade- What are trade barriers (tariffs, quotas)?
Week 14	**Exchange Rates and Global Economics**	Understand how exchange rates affect international trade.	- What is an exchange rate?- Types of exchange rate systems- How exchange rates affect trade and prices
Week 15	**Government Policies in an Open Economy**	Learn how fiscal and monetary policies affect the global economy.	- How fiscal policy works in an open economy- The effect of monetary policy on exchange rates and trade
Week 16	**Review and Exam Preparation**	Review key concepts from the course.	- Recap of all major topics- Practice questions and discussion- Q&A for final exam preparation

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.

COURSE TITLE:	**STATISTICS FOR ECONOMISTS-II**
COURSE CODE:	**ECON-321**
CREDIT HOURS:	**03**

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COURSE DESCRIPTION/OBJECTIVES

The main objectives of the course are to enhance students‟ competency in application of statistics to solve economic problems in practical life and to improve their level of quantitative sophistication for further advanced business analysis.

INDENTED LEARNING OUTCOMES

At the conclusion of this course, the student will be:

- Understand and apply **sampling techniques** (random, cluster, stratified, etc.).
- Construct **confidence intervals** for means and proportions.
- Conduct **hypothesis testing** for population means and proportions.
- Make **inferences about two populations** (means and matched samples).
- Analyze **population variances** and compare them.
- Perform **goodness of fit** and **independence tests** (chi-square).
- Conduct **ANOVA** to compare multiple means.
- Design and analyze **experiments** (randomized block, factorial).
- Apply **nonparametric tests** (Wilcoxon, Kruskal-Wallis, etc.).
- Calculate and interpret **index numbers**.
- Analyze real-world data using **statistical methods**.

COURSE CONTENTS

Week	Topic	Objective	Content
Week 1	**Sampling and Sampling Distributions**	Learn about different sampling techniques and sampling distributions.	- Sampling techniques: random, cluster, systematic, convenience, judgment, stratified- Simple random sampling- Point estimation- Introduction to sampling distributions- Properties of point estimators
Week 2	**Interval Estimation**	Understand interval estimation techniques for population parameters.	- Population with known standard deviation (σ)- Population mean with unknown standard deviation (σ)- Determining the sample size- Population proportion
Week 3	**Hypothesis Testing I**	Learn to develop and test null and alternative hypotheses.	- Developing null and alternative hypotheses- Type I and Type II errors- Population mean with known standard deviation (σ)- Population mean with unknown standard deviation (σ)
Week 4	**Hypothesis Testing II**	Understand hypothesis testing for population proportions.	- Population proportion- Hypothesis testing and decision making- Calculating probabilities of Type-II error- Determining the sample size for hypothesis testing about a population mean
Week 5	**Statistical Inference About Mean and Proportions with Two Populations**	Learn to compare two populations using statistical inference.	- Inference about the difference between two population means with known and unknown values of σ_1 and σ_2- Inference about the difference between two population means: matched samples
Week 6	**Inferences About Population Variances**	Understand statistical inference for population variances.	- Inferences about a population variance- Inference about two population variances

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Week 7	**Tests of Goodness of Fit and Independence**	Learn tests for goodness of fit and independence.	- Goodness of Fit: A multinomial population- Tests of independence- Goodness of fit tests
Week 8	**Analysis of Variance (ANOVA) and Experimental Designs**	Understand ANOVA and experimental design methods.	- Introduction to analysis of variance- Testing for the equality of k population means- Multiple comparison procedures- Randomized block design- Factorial experiments
Week 9	**Nonparametric Methods I**	Introduction to nonparametric methods for data analysis.	- Sign test- Wilcoxon test
Week 10	**Nonparametric Methods II**	Learn additional nonparametric methods for analysis.	- Mann-Whitney-Wilcoxon test- Kruskal-Wallis test- Rank correlation
Week 11	**Advanced Nonparametric Methods**	Explore advanced nonparametric methods and their applications.	- Further analysis of nonparametric tests- Practical examples of nonparametric methods
Week 12	**Regression and Correlation**	Understand the basics of regression and correlation analysis.	- Simple linear regression- Correlation coefficient- Least squares method
Week 13	**Time Series Analysis and Forecasting**	Learn time series analysis and forecasting techniques.	- Time series data- Trend analysis and forecasting- Moving averages
Week 14	**Statistical Quality Control and Process Control**	Learn about control charts and quality monitoring.	- Control charts- Process capability analysis- Statistical process control
Week 15	**Index Numbers**	Understand the use of index numbers in economic analysis.	- Defining and calculating index numbers- Price indices and volume indices- Uses of index numbers in economics
Week 16	**Review and Final Exam Preparation**	Review key topics from the course and prepare for the final exam.	- Recap of all topics covered- Practice problems and discussion- Q&A session for final exam

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TEACHING METHODOLOGY: □ Lectures □ In Class Activities □ Written Assignments □ Practical (SPSS / Excel etc)

TEXT/REFERENCE BOOKS

1. Anderson, Sweeney and Williams, Statistics for Business and Economics, Cengage Learning.

2. Wonnacott, T.H. and Wonnacott, R. J., Introductory Statistics, John Wiley & Sons, New York.

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SECOND YEAR: THIRD SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
64.	MATH-326	Gen Ed-XI (QR-II)	Quantitative Reasoning-II	03
65.		Gen Ed-XII (Social Science)		02
66.	MGT-421	Gen Ed-XIII	Entrepreneurship	02
67.	EC-411	Major-Economics	Money Banking & Finance	03
68.	EC-412	Major-Economics	Intermediate Microeconomics	03
69.	EC-413	Major-Economics	Agriculture Economics Theory & Policy	03
Total Credit Hours				**16**

8. **COURSE TITLE: QUANTITATIVE REASONING-II**
9. **COURSE CODE: MATH-326**
10. **CREDIT HOURS: 03**

Course Objectives: The primary objective of this course is to explore, probability and statistics. The curriculum includes in-depth study of exponential and logarithmic functions, as well as problem-solving related to these mathematical concepts. Solving system of linear equations and matrix algebra is the part of this course which ultimately develops the necessary background for data analysis. Overall, the course aims to equip students with a comprehensive understanding of mathematical concepts relevant to probability and statistics enabling them to apply these skills in real-world scenarios.

Course Outline:

Week	Topic	Objective	Content
Week 1	**Logic and Critical Reasoning**	Understand the importance and techniques of logical reasoning.	- Introduction to logic and its importance- Inductive, deductive, and adductive reasoning- Proposition arguments (valid, invalid)- Logical connectives and truth tables
Week 2	**Logical Fallacies and Venn Diagrams**	Learn about logical fallacies and how to use Venn diagrams.	- Common logical fallacies- Venn diagrams for logical reasoning- Predicates and quantifiers
Week	**Quantitative**	Apply logical	- Quantitative reasoning exercises using

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3	**Reasoning with Logic**	reasoning techniques in quantitative exercises.	logical techniques
Week 4	**Mathematical Modeling I - Deterministic Models**	Learn to create and solve deterministic models.	- Introduction to deterministic models- Use of linear functions for real-world modeling
Week 5	**Mathematical Modeling II - Linear Equations**	Model and solve systems of linear equations.	- Modeling systems of linear equations- Solving linear equations in real-world situations
Week 6	**Mathematical Modeling III - Derivatives and Growth**	Introduction to derivatives and growth models.	- Elementary introduction to derivatives- Linear and exponential growth and decay models
Week 7	**Quantitative Reasoning with Mathematical Models**	Apply mathematical modeling techniques in problem solving.	- Quantitative reasoning exercises using mathematical modeling techniques
Week 8	**Statistical Modeling I - Probabilistic Models**	Understand and apply probabilistic models.	- Introduction to probabilistic models- Bivariate analysis- Scatter plots
Week 9	**Statistical Modeling II - Regression Analysis**	Learn simple linear regression and correlation analysis.	- Simple linear regression model- Correlation analysis
Week 10	**Statistical Modeling III - Hypothesis Testing**	Understand hypothesis testing and its applications.	- Basics of estimation and confidence intervals- Z-test, t-test for hypothesis testing
Week 11	**Statistical Inference and Decision Making**	Apply statistical inference in decision making.	- Statistical inference in decision making- Quantitative reasoning exercises using statistical modeling
Week 12	**Review and Final Preparation**	Review key concepts and prepare for the final project.	- Recap of all topics covered- Project-based exercises for applying learned concepts

Recommended Books:

1. "Using and Understanding Mathematics: A Quantitative Reasoning Approach" by Bennett, J.O., Briggs, W, L., & Badalamenti, A.
2. 'Discrete Mathematics and its Applications" by Kenneth H. Rosen.
3. 'Discrete Mathematics with Applications" by Susanna S. Epp.
4. Applied Mathematics for Business, Economics and Social Sciences" by Frank S Budnick.
5. "Elementary Statistics; A Step by Step Approach" by Allan Bluman.
6. 'Introductory Statistics" by Prem S. Mann.
7. "Applied Statistical Modeling" by Salvatore Babones-
8. "Barrons SAT" by Sharvon Weiner Green, and Ira K.Wolf.

COURSE TITLE:	**ENTREPRENEURSHIP**
COURSE CODE:	**MGT-421**
CREDIT HOURS:	**02**

DESCRIPTION

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This course is designed to promote entrepreneurial spirit and outlook among students, encouraging them to think critically, identify opportunities, and transform their ideas into successful ventures. It aims at imparting them with the requisite knowledge, skills and abilities, enabling them to seize the limited opportunities for initiating ventures and successfully navigating the challenges that come with starting a business and managing it. The course covers topics relevant to entrepreneurship including setting up and initiation of business (including requirements for registration and incorporation with regulators such as SECP and others), market research, opportunity identification, business planning, financial literacy for managing finances and securing funding, marketing and sales, team building and innovation. Overall, the course is geared towards personal growth and professional development for pursuing innovative ideas, availing opportunities and initiating start-ups

COURSE LEARNING OUTCOMES

By the end of this course, students shall have:

Week	Topic	Objective	Content
Week 1	**Introduction to Entrepreneurship**	Understand the basic concepts of entrepreneurship.	- Definition and concept of entrepreneurship- Reasons to become an entrepreneur- The entrepreneurial process- Role of entrepreneurship in economic development
Week 2	**Entrepreneurial Skills I**	Learn about the characteristics of successful entrepreneurs.	- Traits of successful entrepreneurs- Success and failure stories
Week 3	**Entrepreneurial Skills II**	Develop skills needed for entrepreneurial success.	- Creative and critical thinking- Innovation and risk-taking
Week 4	**Opportunity Recognition I**	Learn how to identify business opportunities.	- Opportunity identification techniques- Recognizing market gaps
Week 5	**Opportunity Recognition II**	Learn how to evaluate and exploit opportunities.	- Opportunity evaluation and exploitation- Tools for opportunity analysis
Week 6	**Idea Generation**	Understand the process of generating business ideas.	- Innovative idea generation techniques- Brainstorming and ideation methods
Week 7	**Marketing and Sales I**	Learn how to identify target markets and segment them.	- Target market identification and segmentation- Market research techniques
Week 8	**Marketing and Sales II**	Develop strategies to effectively market a product or service.	- The Four P's of marketing (Product, Price, Place, Promotion)- Branding strategies
Week 9	**Financial Literacy I**	Understand basic financial concepts relevant to entrepreneurs.	- Income, savings, and investments- Revenue and expenses- Basic understanding of assets, liabilities, and equity
Week 10	**Financial Literacy II**	Learn financial tools to manage a business effectively.	- Overview of cash flows- Introduction to financial statements- Sources of funding: angel financing, debt financing, equity financing
Week 11	**Team Building for Startups I**	Learn the importance of teams for business success.	- Characteristics of effective teams- Building the right team for your startup

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Week 12	**Team Building for Startups II**	Develop leadership skills for managing startup teams.	- Leadership and team dynamics- Effective communication and team management
Week 13	**Regulatory Requirements to Establish Enterprises in Pakistan I**	Learn about different types of business structures.	- Types of enterprises: sole proprietorship, partnership, private limited companies- Advantages and disadvantages of each structure
Week 14	**Regulatory Requirements to Establish Enterprises in Pakistan II**	Understand legal and tax obligations for businesses.	- Intellectual property rights and protection- Taxation and financial reporting obligations for startups and export firms
Week 15	**Developing a Business Plan I**	Learn to develop a comprehensive business plan.	- Key components of a business plan- Market analysis and feasibility studies
Week 16	**Developing a Business Plan II**	Finalize the business plan and prepare for implementation.	- Financial projections and budgeting- Presenting the business plan to investors or stakeholders

PRACTICAL REQUIREMENTS

As part of the overall learning requirements, students shall be tasked with creating and presenting a comprehensive business plan at the end of the course for a hypothetical or real business idea. This practical exercise shall allow them to apply the knowledge, skills and abilities acquired in the course to develop a feasible business plan and where possible explore the possibility of implementing the: plan with support and assistance from established business-persons and entrepreneurs.

SUGGESTED INSTRUCTIONAL / READING MATERIAL

1. "Entrepreneurship: Successfully Launching New Ventures" by Bruce R. Barringer and R. Duane Ireland.
2. "Entrepreneurship: Theory, Process, and Practice" by Donald F. Kuratko. 3. "New Venture Creation: Entrepreneurship for the 21st Century" by Jeffry A . Timmons, Stephen Spinelli Jr., and Rob Adams.
4. "Entrepreneurship: A Real-World Approach" by Rhonda Abrams.
5. "The I.can Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses" by Eric Ries.
6. "Effectual Entrepreneurship" by Stuart Read, Saras Sarasvathy, Nick Dew, Robert Wiltbank, and Anne-Valerie Ohlsson.

COURSE TITLE: MONEY BANKING & FINANCE
COURSE CODE: EC-411
CREDIT HOURS: 03

Objective

The course aims at providing basic understanding about the principles and practices in money and banking field. The course reviews definitions, functions and theories of m oney classical, Keynsian and modern viewpoints, central and commercial banking, ex amination of monetary policy. The course also discusses the principles of internationa l finance and financial institutions.

Course Contents

Week	Topic	Objective	Content
Week	**Evaluation,**	Understand the origin,	- Need for money and its origin-

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1	**Function, and Forms of Money I**	need, and forms of money.	Commodity money and commodity standards- Rise of fiat money- Seigniorage
Week 2	**Evaluation, Function, and Forms of Money II**	Learn about the functions and types of money.	- Functions of money- Types of money: M1, M2, M3, and L- Approaches to defining and measuring money
Week 3	**Techniques of Money Management and Role of Central Bank**	Understand the role and management of money by central banks.	- Definition of monetary policy- Monetary policy operation procedures- Rules vs discretion in monetary policy
Week 4	**Role of State Bank of Pakistan in Monetary Policy**	Learn about the role of the central bank in coordinating monetary policy.	- Role of State Bank of Pakistan- Coordination of monetary policy in the country
Week 5	**Introduction to International Monetary System I**	Understand international monetary systems and accounting identities.	- Balance of Payments (current account, capital account)- Settlement of balances in international trade
Week 6	**Introduction to International Monetary System II**	Learn about exchange rate systems and their functions.	- Fixed Exchange Rate System: Gold Standard, Bretton Woods System- Floating Exchange Rate System
Week 7	**Monetary and Fiscal Policy Coordination**	Understand the relationship between monetary and fiscal policies.	- Basic international policy relationships- Regulation of banking and financial markets
Week 8	**Basel Agreements I and II**	Learn about the Basel agreements and their importance.	- Basel I and II agreements- Regulatory frameworks for international banking
Week 9	**Financial Markets and Financial Institutions I**	Understand different types of financial markets and institutions.	- Capital Markets: Debt and equity markets- Money markets and financial service markets
Week 10	**Financial Markets and Financial Institutions II**	Learn about depository and non-depository financial institutions.	- Depository institutions: Commercial banks, savings and loans- Non-depository institutions: Mutual funds, insurance companies
Week 11	**Financial Instruments**	Learn about different financial instruments used in markets.	- Certificates of deposits, treasury bills, purchase agreements- Corporate stocks, bonds, and government securities
Week 12	**Banking: Origin, Evolution, and Types**	Understand the evolution of banking and its types.	- Origin and evolution of banking- Types and functions of banks- Sources of funds in relation to legal, economic, and social factors in Pakistan
Week 13	**Prudential Regulations for Banks**	Learn about banking regulations and their importance.	- Prudential regulations for banks and DFIs in Pakistan- Role of regulations in financial stability
Week 14	**Funds Management**	Understand the management of funds within banking institutions.	- Investment and lending strategies- Statutory and liquidity requirements in Pakistan
Week 15	**Banker-Customer Relationship and Customer Accounts**	Learn about the banker-customer relationship and account types.	- Primary and other customer accounts- Know Your Customer (KYC) requirements
Week 16	**Negotiable and Other Instruments**	Learn about negotiable instruments and their role in	- Promissory notes, bills of exchange, cheques, drafts- Letters of credit, travelers cheques, credit and debit cards- Principles

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		banking.	of bank lending, credit control, and security of bank advances

Recommended Books

Luckett D. G., Money and Banking, McGraw Hill, New York, (3rd Edition), 1998.
Miller Roger LeRoy and VanHoose' David D., Modern Money and Banking, McGra w Hill Book Co., Singapore, (3rd Edition), 2000.
Siddiqi Asrar H., Practice and Law of Banking in Pakistan, Royal Book Company, Ka rachi, (7th Edition), 2004.

COURSE TITLE: INTERMEDIATE MICROECONOMICS
COURSE CODE: EC-412
CREDIT HOURS: 03

Objectives

The objective of the course is to clarify and extend further the microeconomic concepts and to develop analytical skills and solving petty problems. In addition to diagrammatic approach, the students ought to get accustomed to simple mathematics and numerical tools. The teacher is expected to draw examples from surroundings for exposition.

The students may be given assignments to collect information from the markets and to analyze the data. They may have tours to the industrial units and to observe the process of production and problems in supply and demand.

Course Contents

Week	Topic	Objective	Content
Week 1	**Introduction to Microeconomics**	Understand the scope, concepts, and basic functions in microeconomics.	- Scope of microeconomics and its areas of concern- Economic agents and decision-making- Theory of value, production, and consumption- Role of markets and price signals- Introduction to economic models and mathematical functions (Utility, Demand, Supply, Production functions)
Week 2	**Theory of Consumer Behavior I: Axioms and Utility**	Learn about consumer preferences, utility, and rationality.	- Axioms of rationality- The utility function and its arguments- Laws of diminishing marginal and equi-marginal utility
Week 3	**Theory of Consumer Behavior II: Indifference Curves**	Understand indifference curves and the concept of consumer equilibrium.	- Indifference curves and their properties- Perfect substitutes and complements- Marginal rate of substitution (MRCS)- Convexity of indifference curve and diminishing MRS
Week 4	**Theory of Consumer Behavior III: Budget Constraint**	Learn how budget constraints impact consumer choices and equilibrium.	- The budget constraint- Consumer's equilibrium and the law of equi-marginal utility- Income and substitution effects of a price change
Week 5	**Demand and Elasticity I**	Understand the demand functions and elasticity concepts.	- Derivation of demand functions using indifference curves- Ordinary and compensated demand functions- Engel's law and classification of goods

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Week 6	**Demand and Elasticity II**	Learn the different types of elasticities and their importance.	- Market demand as horizontal summation of individual demands- Own-price, cross-price, and income elasticity- Relationships among different demand elasticities
Week 7	**Production Functions I**	Understand the basic theory of production and production functions.	- Definition, classification, and problems of firms- Production and value-added functions- Fixed and variable-coefficient functions- Commonly used production functions: Cobb-Douglas, CES
Week 8	**Production Functions II**	Learn about the marginal products and cost lines.	- Average and marginal products of variable factors- Iso-quant maps and marginal rate of technical substitution (MRTS)- The cost line and equilibrium of the firm
Week 9	**Cost of Production**	Understand the different types of costs in production.	- Economic vs. accounting costs- Fixed, sunk, total, and variable costs- Short-run and long-run cost functions- Cost minimization subject to given output levels
Week 10	**Behavior of the Firm**	Learn about the firm's objectives and revenue maximization.	- Profit maximization and loss minimization- Short-run and long-run firm equilibrium- Total, average, and marginal revenues- Equality of marginal revenue and marginal costs
Week 11	**Market Structure I: Perfect Competition**	Understand perfect competition and its equilibrium conditions.	- Assumptions of perfect competition- Short-run and long-run equilibrium- Derivation of equilibrium prices and quantities
Week 12	**Market Structure II: Monopoly and Monopsony**	Understand monopolies and monopsonies and their price-setting power.	- Sources of monopoly power- Monopoly pricing, price discrimination, and social costs- Comparison between monopoly and monopsony- Short-run and long-run equilibrium of a monopoly firm
Week 13	**Market Structure III: Monopolistic Competition and Oligopoly**	Learn about monopolistic competition and oligopoly behavior.	- Characteristics of monopolistic competition- Short-run and long-run equilibrium- Models of non-collusive oligopoly (Cournot, Bertrand, Sweezy)
Week 14	**Pricing of the Factors of Production**	Understand how factor markets work and how factors are priced.	- Derived demand for variable inputs- Marginal productivity theory and its criticism- Labor supply and wage determination- Pricing of fixed factors (rents, quasi-rents)
Week 15	**Income Distribution and Welfare Economics**	Understand how income is distributed among factors of production.	- Income distribution theories- Welfare economics and social efficiency- The role of government intervention in income redistribution
Week 16	**Review and Final Exam Preparation**	Review the key concepts of the course and prepare for the final exam.	- Recap of all topics covered- Practice problems and Q&A for final exam preparation

Recommended Books

- Pindyck and Rubinfled with Mehta- Microeconomics- 6th Edition (2005)-
- Pearson Education, Singapore
- Walter Nicholson- Intermediate Microeconomics- 6th Edition (1994) or latest
- The Dryden Press: Harcourt Brace College Publishers
- Koutsoyiannis, A- Modern Microeconomics- 2nd edition (1979)-Macmillan.

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- Varian Hall R.- Intermediate Microeconomics: Modern Approach-6th edition
- Pakistan Economic Survey (latest), Annual reports of the State Bank of Pakistan, Federal and Provincial Budgets (latest).

COURSE TITLE:	**AGRICULTURAL ECONOMICS THEORY & POLICY**
COURSE CODE:	**EC-413**
CREDIT HOURS:	**03**

Objectives

The course aims at equipping the students with the knowledge and skills required to analyze the agricultural economic issues for efficient use of scarce resources in agriculture sector and its development, consistent with the interest of all stake holders.

Course Contents

Week	Topic	Objective	Content
Week 1	**Introduction and Importance of Agriculture**	Understand the importance and historical development of agriculture.	- Agricultural Revolution- Importance of Agriculture- Food safety- Agriculture vs. industrial development debate- Current state of agricultural development- Sources of growth
Week 2	**Structure and Characteristics of Agriculture in LDCs**	Learn about traditional agriculture and productivity in developing countries.	- Traditional agriculture and productivity- Access to non-labor resources- Natural hazards and economic uncertainties- The food problem- Farm size and productivity- Farm size in Pakistan and productivity
Week 3	**Role of Agriculture in Economic Development**	Understand agriculture's role in the economic development of a country.	- Framework of analysis: Product, market, factor's contribution- Foreign exchange contribution- Agriculture vs. industry debate of development
Week 4	**Theory of Rent and the Concept of 'Surplus'**	Explore the theory of economic rent and surplus in agriculture.	- Economic rent and theory of rent- Rent and quasi-rent- Agricultural surplus- Characteristics of landownership in underdeveloped agriculture- Share tenancy model in Pakistan
Week 5	**Agriculture in Dualistic Development Models**	Learn about dualistic models of economic development.	- The Lewis Model, Ranis-Fei Model, Jorgenson Model, etc.- Criticism of dual economy models- Agricultural adequacy and Mellor's Model
Week 6	**Resource Use Efficiency and Technical Change in Peasant Agriculture**	Understand how agricultural resources are utilized and the impact of technical change.	- Efficiency of resource utilization- Technological change in agriculture- Factor-biased technological change- Agricultural technical change and its employment effects in LDCs
Week 7	**Supply Response**	Study how agricultural supply responds to price changes.	- Cobweb Model- Price-supply response in backward agriculture- Supply response models- Marketed surplus and estimation methods- Green Revolution and its responses in Pakistan
Week 8	**Population and Food Supplies**	Understand the relationship between population growth and	- The Classical vs. Contra-Malthusian models- Ecological disequilibrium- Malnutrition in developing countries like

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		food supplies.	Pakistan- Agricultural project planning
Week 9	**Agriculture and Climate Change I: Introduction**	Introduce climate change and its impact on agriculture.	- Overview of climate change effects on agriculture- The role of agriculture in contributing to climate change- Global agricultural emissions and sustainable practices
Week 10	**Agriculture and Climate Change II: Impact on Crop Yields**	Learn about the effects of climate change on crop production.	- Impact of rising temperatures on crop yields- Changes in precipitation patterns- Effects on water availability for irrigation- Regional vulnerabilities and adaptation strategies
Week 11	**Agriculture and Climate Change III: Livestock and Fisheries**	Understand the impact of climate change on livestock and fisheries.	- Climate change effects on livestock production- Changes in grazing lands and feed availability- Climate change's impact on fish stocks and aquaculture
Week 12	**Agriculture and Climate Change IV: Adaptation Strategies**	Study the adaptation strategies for climate change in agriculture.	- Climate-smart agriculture practices- Water management and drought-resistant crops- Policy and financial support for climate adaptation in agriculture
Week 13	**Agriculture and Climate Change V: Mitigation Strategies**	Explore strategies for mitigating the impact of agriculture on climate change.	- Carbon sequestration in soils- Sustainable agricultural practices and renewable energy- Reducing greenhouse gas emissions from farming and food systems
Week 14	**Climate Change and Policy**	Understand the role of policy in addressing climate change and agriculture.	- National and international policies on agriculture and climate change- Role of government, NGOs, and international organizations- Climate policy implementation challenges
Week 15	**Agricultural Finance and Investment for Climate Change**	Explore the financial mechanisms for addressing climate change in agriculture.	- Investment in climate-resilient agriculture- Financial instruments for climate change adaptation and mitigation- Role of international financial institutions in supporting climate-smart agriculture
Week 16	**Final Exam and Course Review**	Review key concepts and prepare for the final exam.	- Recap of all topics covered- Q&A session- Practice exam questions

Recommended Books

- Brown, Lester, The Social Impact of Green Revolution, New York, The Greogie Endowment for International Peace, 1971.
- Capstick Margret. The Economics of Agriculture, London George Allen Unwin Ltd., latest edition.
- Chaudhary M. Aslam, (1989), Agricultural Development and Public Policies, Izhar Sons, Lahore.
- Ghatak S., and Inherent K., Agriculture and Economic Development, (Latest Edition), Harvester Press.
- Johnston, Bruce, F & FellirKily. Agricultural and Structural Transformation, Economic Strategies in late Developing Countries.
- Khan Mahmood-ul-Hassan. The Economics of Green Revolution in Pakistan, New York, Published 1975.
- Karamat, A., Political Economy of Rural Development in Pakistan, Lahore Vanguard Book House, 1981.

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- Shafi M., (1995), Pricing of Farm Produce in Pakistan, Objectives, Practices, and Experiences. Print Associates International, Islamabad.
- ThorbakeErike. The Role of Agriculture in Economic Development, New York, Columbia University Press (1971).
- Upton Marlin, Agricultural Production and Resource Use.
- Colman D. and Young T., Principals of Agricultural Economics, Markets and Prices in Less Developed Countries, (1989), Cambridge University Press.
- Yujiro Hayami and Vernon W. Ruttan, Agricultural Development, John Hopkin University Press, London. (Latest edition).

SECOND YEAR: FOURTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
70.		Gen Ed-XIV (Natural Science)		03
71.	CS-311	Gen Ed-XV (ICT)	Applications of Information and Communication Technologies	03
72.	EC-421	Major-Economics	Economy of Pakistan	03
73.	EC-422	Major-Economics	Intermediate Macroeconomics	03
74.	EC-423	Major-Economics	Mathematical Economics-I	03
75.	EC-424	Major-Economics	Basic Econometrics	03
Total Credit Hours				**18**

COURSE TITLE: **APPLICATIONS OF INFORMATION AND COMMUNICATION TECHNOLOGIES**
COURSE CODE: **CS-311**
CREDIT HOURS: **03**

Course Learning Outcomes (CLOs):		
At the end of the course the students will be able to:	**Domain**	**BT Level***
1. Explain the fundamental concepts, components, and scope of Information and Communication Technologies OCT)	C	1
2. Identify uses of various ICT platforms and tools for different purposes.	C	2
3. Apply ICT platforms and tools for different purposes to address basic needs in different domains of daily, academic, and professional life.	C	2
4. Understand the ethical and legal considerations in use of ICT platforms and tools.	C	3
* BT = Bloom's Taxonomy, C = Cognitive domain, P = Psychomotor domain, A = Affective domain		
Course Content:		
1. Introduction to Information and Communication Technologies: • Components of Information and Communication Technologies (basics of hardware. software, ICT platforms, networks, local and cloud data storage etc.). • Scope of Information and Communication Technologies (use of ICT in education, business, governance, healthcare, digital media and entertainment, etc.).		

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- Emerging technologies and future trends.

2. Basic ICT Productivity Tools:

- Effective use of popular search engines (e.g., Google, Bing, etc.) to explore World Wide Web.
- Formal communication tools and etiquettes (Gmail, Microsoft Outlook, etc.).
- Microsoft Office Suites (Word, Excel, PowerPoint).
- Google Workspace (Google Docs, Sheets, Slides).
- Dropbox (Cloud storage and file sharing), Google Drive (Cloud storage with Google Docs integration) and Microsoft OneDrive (Cloud storage with Microsoft Office integration).
- Evernote (Note-taking and organization applications) and OneNote (Microsoft's digital notebook for capturing and organizing ideas).
- Video conferencing (Google Meet, Microsoft Teams, Zoom, etc.).
- Social media applications (Linkedln, Facebook, Instagram, etc.).

3. ICT in Education:

- Working with learning management systems (Moodle, Canvas, Google Classrooms, etc.).
- Sources of online education courses (Coursera, edX, Udemy, Khan Academy, etc.).
- Interactive multimedia and virtual classrooms.
- ICT in Health and Well-being:
- Health and fitness tracking devices and applications (Google Fit, Samsung Health, Apple Health, Xiaomi Mi Band, Runkccpcr, etc.).
- Telemedicine and online health consultations (OLADOC, Sehat Kahani, Marham, etc.).

4. ICT in Personal Financial and Shopping:

- Online banking and financial management tools (JazzCash, Easypaisa, Zong PayMax, I LINK and MNET, Keenu Wallet, etc.).
- E-commerce platforms (Daraz.pk, Telcmart, Shophivc, etc.)
- Digital Citizenship and Online Etiquette:
- Digital identity and online reputation.
- Netiquette and respectful online communication.
- Cyberbullying and online harassment.

5. Ethical Considerations in Use of ICT Platforms and Tools:

- Intellectual property and copyright issues.
- Ensuring originality in content creation by avoiding plagiarism and unauthorized use of information sources.
- Content accuracy and integrity (ensuring that the content shared through ICT platforms is free from misinformation, fake news, and manipulation)

PRACTICAL REQUIREMENTS

As part of the overall learning requirements, the course will include:

1. Guided tutorials and exercises to ensure that students are proficient in commonly used software applications such as word processing software (e.g., Microsoft Word), presentation software (e.g., Microsoft PowerPoint), and spreadsheet software (e.g., Microsoft Excel) among such other tools. Students may be assigned practical tasks that require them to create documents, presentations, and spreadsheets etc.

2. Assigning of tasks that involve creating, managing, and organizing files and folders on both local and cloud storage systems. Students will practice file naming conventions, creating directories, and using cloud storage solutions (e.g., Google Drive, OneDrive).

3. The use of online learning management systems (LMS) where students can access course

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materials, submit assignments, participate in discussion forums, and take quizzes or tests. This will provide students with the practical experience with online platforms commonly used in education and the workplace.
Teaching Methodology:
Lecturing, Written Assignments, Project
Course Assessment:
Sessional Exam, Home Assignments, Quizzes, Lab, Presentation, Final Exam
Reference Materials:
1. Discovering Computers" by Vermaat, Shaffer, and Freund. 2. "GO! with Microsoft Office" Series by Gaskin, Vargas, and McLellan. 3. "Exploring Microsoft Office" Series by Grauer and Poatsy. 4. "Computing Essentials" by Morley and Parker. 5. "Technology in Action" by Evans, Martin, and Poatsy.

COURSE TITLE:	**ECONOMY OF PAKISTAN**
COURSE CODE:	**EC-421**
CREDIT HOURS:	**03**

Course Introduction

The course is designed with an objective to introduce the students to the historical as well as contemporary issues of Pakistan's economy in a political economy perspective. The contents include issues related to agriculture, industry and services sectors, on one hand, and health, education and gender issues, on the other. Moreover, the course includes the exposure about the twin deficit situation of Pakistan's economy, developing over the years, with some analysis of consequences of the dual deficit (budget deficit and balance of payments deficit). The chronic issues of poverty and inequality in Pakistan's economy would be discussed in the context of socio-political and economic institutions in the country. A selection of political economy issues of interest to the students would also be taken up in the course.

Learning Objectives

- Understand the **basic facts and structure** of Pakistan's economy, its political economy, and the historical transformation since 1947.
- Analyze **key agricultural and industrial issues**, including pricing, productivity, the role of the textile industry, privatization, and energy challenges.
- Examine the **foreign trade dynamics** of Pakistan, focusing on chronic trade deficits, imports/exports, and remittances.
- Gain insights into **resource mobilization, tax structures**, and the **fiscal deficit** issues, including the defense budget and the role of SROs.
- Understand **fiscal federalism** and the evolving dynamics of the National Finance Commission (NFC) and the implications for development.

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- Critically assess the **IMF's role** and structural adjustment programs, evaluating their impact on macroeconomic stability and growth.
- Discuss **contemporary economic issues** such as central bank independence and fiscal policy choices during crises (e.g., COVID-19).
- Evaluate **macroeconomic policies** and their impact on long-term growth, sustainability, and economic stability.

Course Contents

Week	Topic	Objective	Content
Week 1	**Getting Familiar with Pakistan's Economy**	Introduce students to Pakistan's economy and its political context.	- Basic facts of Pakistan's economy- Classification of critical issues- Nature of political economy in Pakistan
Week 2	**Structural Transformation of Pakistan (1947-2020)**	Understand the evolution and major trends in Pakistan's economic structure.	- Structural transformation from 1947 to 2020- Major trends in agricultural pricing policies
Week 3	**Critical Issues in Agriculture**	Analyze the key issues in the agricultural sector in Pakistan.	- Agricultural pricing in Pakistan (Arthi and Beopari)- Economics of wheat support pricing- Agricultural income tax
Week 4	**Key Issues in Industry in Pakistan**	Discuss the industrial trends and challenges in Pakistan.	- Trends of major industrial indicators- Small scale manufacturing- Characteristics and growth of industries
Week 5	**Industrial Growth and Performance**	Explore the challenges and performance of key industries.	- Textile industry efficiency- Public sector enterprises: performance and challenges- Privatization debate and controversies
Week 6	**The Energy Issue in Pakistan**	Discuss the energy crisis and its impact on Pakistan's economy.	- Power generation and its growth- Politics of energy crises- The vicious circle of debt
Week 7	**Pakistan's Foreign Trade and Chronic Deficit**	Learn about Pakistan's trade balance and chronic deficits.	- Overview of Pakistan's foreign trade (exports, imports, remittances)- Classification of exports and imports- East Pakistan's share in trade
Week 8	**Resource Mobilization and Tax Structure**	Understand how Pakistan mobilizes resources and its tax structure.	- The structure of taxation in Pakistan- Waivers and exemptions, culture of SROs
Week 9	**The Fiscal Deficit in Pakistan**	Discuss the fiscal deficit issues and challenges in Pakistan.	- Fiscal Responsibility legislation- Issues surrounding the fiscal deficit- Size of defense budget
Week 10	**Fiscal Federalism in Pakistan**	Explore fiscal federalism and emerging dynamics in Pakistan.	- National Finance Commission: Introduction- New Fiscal Federalism models- Perspectives by Dr. Ishrat Hussain and Mr. Sakib Sherani
Week 11	**The IMF and Structural Adjustment Programs in Pakistan**	Understand the role of IMF and its impact on Pakistan's economy.	- Questioning the need for the IMF program- Importance of IMF assistance- IMF credit, macroeconomic stability, and growth sustainability
Week	**Discussion Over**	Discuss current economic issues	- Central Bank independence- Fiscal

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12	**Contemporary Issues in Pakistan's Economy**	of importance to Pakistan.	policy choices during the Corona pandemic
Week 13	**Review of Agricultural, Industrial, and Energy Issues**	Recap and critically analyze the issues discussed in previous weeks.	- Revisit critical issues in agriculture, industry, and energy- Impact of policies on these sectors
Week 14	**Review of Pakistan's Foreign Trade and Fiscal Policies**	Review key topics related to Pakistan's trade and fiscal policies.	- Foreign trade, trade deficits, and fiscal policies- Taxation structure and fiscal deficits
Week 15	**Macro Policies and Economic Sustainability**	Discuss the macroeconomic policies and long-term sustainability.	- Fiscal policies, trade balances, and macroeconomic sustainability- The role of international financial institutions (IMF, World Bank)
Week 16	**Final Exam and Course Review**	Review all topics covered and prepare for the final exam.	- Recap of all major topics- Practice problems and Q&A for the final exam

Basic Text

Zaidi, S. Akbar (2015) Issues in Pakistan's Economy (3rd Edition), Oxford University Press

Supplementary Readings

Hussain, Ishrat (1999) Pakistan – The Economy of an Elitist State, Oxford University Press Khan. Shah Rukh Rafi, (1999), 50 Years of Pakistan's Economy, Oxford University Press Amjad, Rashid & Burki, Shahid Javed ed. (2013) "Pakistan Moving the Economy Forward", LSE

Ahmed, Viqar & Amjad, Rashid (1995) The Management of Pakistan's Economy: 1947-82, Oxford University Press Lodhi, Maleeha ed. (2011) 'Pakistan Beyond the Crises State', Oxford University Press

Finance Division, GoP (2014) 'Federal Footprint: State Owned Enterprises– Performance Review' prepared by Implementation & Economic Reform Unit, Government of Pakistan

Web Resources

http://mecometer.com/country/pakistan/ (Very useful data source that can plot data by default). http://www.finance.gov.pk/survey_1415.html (Ministry of Finance, Government of Pakistan, Economic Suvey of Pakistan).

http://www.sbp.org.pk/publications/index2.asp (State Bank of Pakistan, Publications) http://www.pbs.gov.pk/ (Pakistan Bureau of Statistics).

http://www.amis.pk/Reports/YearMonthWiseDrillDown.aspx (Agriculture Marketing Information Service). http://www.pide.org.pk/ (Pakistan Institute of Development Economics) http://www.sdpi.org/ (Sustainable Development Policy Institute, Islamabad). http://www.spdc.org.pk/ (Social Policy Development Center) http://www.tradingeconomics.com/pakistan (A data source giving latest data along with charts) http://www.commerce.gov.pk/ (Official website of Ministry of Commerce, GoP)

http://www.ead.gov.pk/(Official website of Ministry of Finance, revenue and Economic Affairs, GoP)

COURSE TITLE:	**INTERMEDIATE MACROECONOMICS**
COURSE CODE:	**ECON-422**
CREDIT HOURS:	**03**

Objectives

The objective of the course is to clarify and extend further the concepts of

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macroeconomics so as they develop the capacity to understand the issues and problems of the economy in a global scenario. In particular, they have to capture the nature and scope of various public policies. In addition to diagrammatic approach, the students are confronted to simple mathematical and numerical analysis. The teacher is expected to draw examples from the surrounding world for exposition.

The students may be given assignments to collect information about various aspects of the economy. They have to read and understand the Economic Survey and Annual Reports of the State Bank of Pakistan. They may be asked to discuss the Federal and Provincial Budgets and to analyze the framework.

Course Contents

Week	Topic	Content	Reading
Week 1	**The Science of Macroeconomics**	- Course introduction, subjects, and requirements.- Introduction to the economist's worldview.- The scope and importance of macroeconomics.	Chapter 1
Week 2	**The Data of Macroeconomics**	- Issues in Macroeconomics.- GDP and related statistics from national income accounts.- Sources of macro data.	Chapter 2
Week 3	**The National Income: Where it Comes From and Where it Goes**	- What determines the total production of goods and services?- How is national income distributed to the factors of production?- What determines the demand for goods and services?- How is equilibrium determined?	Chapter 3
Week 4	**Money and Inflation**	- What is money and its types?- How money is controlled in an economy.- The demand and supply of money.- The quantity theory of money.- Inflation types and its social costs.- Relationship between inflation and money.- Interest rate and inflation.	Chapter 4
Week 5	**Unemployment**	- What is unemployment?- Different types of unemployment.- Natural rate of unemployment.- Long-run determinants of unemployment rate.- Minimum-wage laws, union market power, and efficiency wages.	Chapter 6
Week 6	**Open-Economy Macroeconomics: Basic Concepts**	- The macroeconomics of open economies.- Long-run assumptions of price flexibility and full employment.- The relationship among saving, investment, and the trade balance.- Nominal vs. real exchange rate.- Purchasing-power parity theory.	Chapter 5
Week 7	**Midterm Exam**	- Midterm Exam.	
Week 8	**Business Cycle Theory**	- The facts about the business cycle.- Aggregate demand and supply.- Stabilization policies.	Chapter 9
Week 9	**Aggregate Demand: Building IS-LM Model**	- Goods market equilibrium.- Money market equilibrium.	Chapter 10
Week 10	**Applying IS-LM Model**	- Fiscal policy and short-run implications.- Monetary policy and short-run implications.- IS-LM and the derivation of aggregate demand.	Chapter 11
Week 11	**Aggregate Supply and the Short-Run**	- The sticky price model.- Unemployment, inflation, and the Phillips curve.	Chapter 13
Week 12	**Stabilization Policies**	- What is stabilization policy?- Stabilization through monetary and fiscal policies.	Chapter 15
Week 13	**Government Debt and Budget Deficit**	- What is government debt?- Problems associated with government debt.- Budget deficits and debts.	Chapter 16
Week 14	**Macroeconomics Schools of Thought**	- The Classical School of thought.- The Keynesian School of thought.- Classical vs. Keynesian debate.	

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Week 15	**Microeconomics Behind Macroeconomics**	- How microeconomic agents affect the macroeconomy. - Example of the Keynesian consumption function.	Chapter 17
Week 16	**Final Exam**	- Final Exam.	

Recommended Books

- Shapiro, Edward – Macroeconomic Analysis- 7th Edition (2000) – Harcourt Brace Inc.
- Froyen, Richard–Macroeconomics: Theories and Policies–7th Edition (2002) –
- Macmillan
- Mankiw, Gregory N.- Macroeconomics -6th Edition (2007), Worth Publishers, NY.
- Blanchard, Oliver – Macroeconomics -2nd Edition (2000)-Prentice Hall International.
- Dornbusch& Fisher – Macroeconomics- 9th Edition (2004) - McGraw Hill Inc.

COURSE TITLE: MATHEMATICAL ECONOMICS-I
COURSE CODE: EC-423
CREDIT HOURS: 03

Objectives

The course is designed to enable the students use mathematical tools in clarifying their economic concepts and solving problems. This is because economic analysis requires extensive use of mathematics in the present day world of complexity. Mere logical reasoning and diagrammatic approach is perhaps not sufficient. This is true for positive economics in particular. As such, the students of economics have to learn and apply mathematics alongside their theoretical underpinnings.

Homework:

The students may be given assignments and exercises from the texts and weekly or fortnight class tests including MCQ's and confronted to extensive practice.

Course Contents

Week	Topic	Objective	Content
Week 1	**The Nature of Mathematical Economics I**	Understand the role of mathematics in economics.	- Pure and applied mathematics in economics- Economic theory as logical argument- Expression of theory in functional form- Types of variables and parameters
Week 2	**The Nature of Mathematical Economics II**	Learn about mathematical functions and their importance in economic models.	- Linear and non-linear functions (quadratic, polynomial, circular)- Types of functions: constant, rational, non-algebraic, logarithms, and exponential
Week 3	**Equilibrium Analysis I**	Understand equilibrium analysis in economic models.	- Equation of a straight line: Slope and intercept parameters- Economic interpretation of equilibrium concepts
Week 4	**Equilibrium Analysis II**	Apply equilibrium concepts to market models and income determination.	- Partial and general equilibrium analysis- Demand and supply equations- Price and quantity determination- Effect of excise tax on equilibrium
Week 5	**Equilibrium Analysis III**	Learn about national income determination using equilibrium	- National Income determination in a closed economy-. Goods and money markets- Calculation of elasticities at

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		models.	equilibrium
Week 6	**Linear Models and Matrix Algebra I**	Understand the use of matrices in simultaneous equation models.	- Simultaneous equations models using matrices- Types of matrices (square, identity, diagonal, etc.)
Week 7	**Linear Models and Matrix Algebra II**	Learn matrix operations and applications in economic modeling.	- Matrix operations: addition, scalar and vector multiplication- Determinant, minors, cofactors, and inverse matrix- Gaussian method, Cramer's rule, Inverse matrix method
Week 8	**Linear Models and Matrix Algebra III**	Apply matrix methods to solve economic models.	- Solution of market models, national income models- Least-Squares econometric model via matrix approach
Week 9	**Differentiation I**	Introduction to differentiation and its rules.	- Concept of derivatives- Functions of one variable and differentiation rules (sum-difference, product, quotient, chain rule, etc.)
Week 10	**Differentiation II**	Learn advanced differentiation techniques and applications.	- Higher order derivatives- Maxima, minima, and points of inflection- Implicit differentiation and combinations of rules
Week 11	**Differentiation III**	Apply differentiation in economic functions and optimization.	- Free and constrained optimization- Partial differentiation & its rules- Hessian and Jacobian determinants
Week 12	**Economic Applications of Differential Calculus I**	Apply differentiation to utility, demand, and production functions.	- Utility, demand, production, cost, and supply functions- Lagrange function for profit maximization and cost minimization
Week 13	**Economic Applications of Differential Calculus II**	Explore optimization in monopolistic and competitive markets.	- Maximizing excise tax revenue in monopolistic markets- Comparative static analysis in partial equilibrium models- Substitution elasticities
Week 14	**Economic Applications of Differential Calculus III**	Learn optimization in multi-product and multi-plant firms.	- Profit maximization in multi-product firms- Price discrimination and monopoly- Optimization using Cobb-Douglas, CES, and Trans-log functions
Week 15	**Linear Programming I**	Introduce linear programming and its economic applications.	- Ingredients of linear programming- Graphical approach- Simplex method
Week 16	**Linear Programming II**	Learn duality in linear programming and its economic interpretation.	- Concept of primal & dual problems- Duality theorems and economic interpretation of dual problems- Solving primal via dual

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 (1993) or latest – McGraw Hill Publishing Company.
- Dowling E. T.- Mathematics for Economists, Schaum's Outline Series- 3rd Edition

COURSE TITLE:	**BASIC ECONOMETRICS**
COURSE CODE:	**EC-424**
CREDIT HOURS:	**03**

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Objectives

The course is designed to enable the students derive relationship between economic variables from the available data. The students should be in a position to apply statistical methods to data via simple mathematical models and to interpret the results by using economic theory. The students are encouraged to learn the use of simple computer programs and econometric packages in handling data and to understand the print outs. The teacher should expose the students to the use of computer in solving simple econometric problems and assignments.

Course Contents

Week	Topic	Objective	Content
Week 1	**Introduction to Econometrics**	Understand the scope, definition, and application of econometrics.	- Definition and scope of econometrics- Economic theory as the basis for empirical analysis- Mathematical and econometric models- Application of statistical techniques to economic data- Ingredients of econometric modeling: Specification, Estimation, Evaluation, and Forecasting
Week 2	**The Classical Linear Regression Model (CLRM) - Simple Two-Variables Model**	Understand the basic regression model and its components.	- Variables and parameters in econometrics- Explained and explanatory variables- Estimators and estimates- Correlation and regression theory- Structure of the two-variable linear econometric model
Week 3	**The Classical Linear Regression Model (CLRM) - Simple Two-Variables Model (Continued)**	Learn about the assumptions, estimation, and interpretation of OLS estimators.	- Assumptions of the model with special reference to the disturbance term- Least squares principle (OLS)- BLUE properties of OLS estimators- Estimation procedure- Hypothesis testing using Z, t, F statistics
Week 4	**The Classical Linear Regression Model (CLRM) - Simple Two-Variables Model (Continued)**	Understand model performance and econometric forecasting.	- Confidence intervals and tests of significance- ANOVA technique- Explanatory power of the model (R-squared)- Econometric forecasting- Extensions of the model: Time as an explanatory variable, dummy variables
Week 5	**The Multiple Linear Regression Model (MLRM)**	Learn about multiple regression models and the assumptions behind them.	- General format of MLR model- Assumptions of MLR model (independence of explanatory variables)- Estimation with 3-4 explanatory variables using OLS- Interpretation of coefficients and computation of elasticities
Week 6	**The Multiple Linear Regression Model (MLRM) - Testing and Goodness of Fit**	Understand hypothesis testing and model evaluation in MLR.	- Degree of freedom and adjusted R^2- Hypothesis testing in MLR (F-statistics)- Goodness of fit in MLR- Economic theory and econometric modeling
Week 7	**Deviation from Classical Assumptions**	Explore the issues when classical assumptions do not hold.	- Relaxation of assumptions and estimation issues- Overview of potential problems in econometric modeling
Week	**Dummy Variables**	Learn how to	- Use of dummy variables in regression

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8		incorporate dummy variables into econometric models.	models- Applications in modeling categorical data- Interaction effects and interpretation of coefficients
Week 9	**Multicollinearity**	Understand the problem of multicollinearity in regression analysis.	- Linear relationship between explanatory variables- Detection of multicollinearity- Consequences for OLS estimators- Remedial measures for multicollinearity
Week 10	**Heteroskedasticity**	Understand heteroskedasticity and its effects on estimators.	- Meaning and consequences of heteroskedasticity- Non-constant variance in cross-section data- Detection and remedial measures for heteroskedasticity- Introduction to Generalized Least Squares (GLS)
Week 11	**Autocorrelation**	Understand autocorrelation in time-series data and its effects.	- Causes of autocorrelation- AR(1) process- Consequences for OLS estimators- Detection and remedial measures for autocorrelation
Week 12	**Model Misspecification I**	Learn about model misspecification and its consequences.	- What is model misspecification?- Types of model misspecifications- Consequences for regression results
Week 13	**Model Misspecification II**	Explore remedies for model misspecification.	- Detection of model misspecification- Diagnostic tests for misspecification- Remedial measures (e.g., adding variables, transforming data)
Week 14	**Introduction to Simultaneous Equations Models**	Learn about simultaneous equations models and their role in econometrics.	- Why simultaneous equations models?- General format and structure of simultaneous equations- Exogenous vs endogenous variables- The identification problem
Week 15	**Simultaneous Equations Models: Basics**	Understand how to estimate simultaneous equations models.	- Structural vs reduced-form models- Identification rules (Order and Rank conditions)- Instrumental Variables and Indirect Least Squares (ILS)
Week 16	**Final Review and Exam Preparation**	Review all topics and prepare for the final exam.	- Recap of all topics covered- Practice questions and Q&A session for final exam preparation

Recommended Books

- Gujrati, D.J. - Basic Econometrics – 4th Edition (2003)- McGraw Hill Company.
- Dougherty, Christopher – Introduction to Econometrics – 2nd edition (2002)
- Oxford University Press.
- Koutsoyiannis, A.- Theory of Econometrics - 2nd Edition (1977) - McMillan.
- Wonnacot&Wonnacot –Econometrics – 2nd Edition (1970)-John Wiley, New York.
- Pindyck&Rubinfeld- Econometric Models & Economic Forecasts- 3rd Edition (1992)- McGraw Hill Inc.

Maddala, G.S. – Econometrics - (1988) - McGraw Hill Company

THIRD YEAR: FIFTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
76.	MGT-311	Interdisciplinary-I	Financial Accounting-I	03
77.	MGT-322	Interdisciplinary-II	Principles of Management	03

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78.	EC-511	Major-Economics	Mathematical Economics-II	03
79.	EC-512	Major-Economics	Microeconomic Analysis	03
80.		Major-Economics (Optional-I)		03
81.		Major-Economics (Optional-II)		03
Total Credit Hours				**18**

COURSE TITLE: FINANCIAL ACCOUNTING-I
COURSE CODE: MGT-311
CREDIT HOURS: 03

COURSE DESCRIPTION/OBJECTIVES

The primary aim of Financial Accounting is to provide students with an introduction to the process and function of financial reporting. Whilst a large proportion of the course is aimed at understanding accounting as a process, taking a preparer‟ perspective, we will also seek to develop an understanding of the importance of the role of accounting in today's society.

LEARNING OUTCOMES

After studying this course the student will be able to understand:

1. The language of accounting and financial reporting;
2. Complete Accounting Cycle
3. Preparation and the role of Journal, Ledger and subsidiary books
4. Preparation of balance sheet, profit and loss account and cash flow statement.

COURSE CONTENT

Week	Topic	Objective	Content
Week 01	**Accounting and its Role**	Understand the development and scope of accounting, and its importance in business and career.	- Development of accounting- Accounting Theory and Conceptual framework- Accounting Defined- Why study Accounting- Financial statements- Major fields of Accounting- Accounting as a Career
Week 02	**Basic Accounting Concepts**	Learn and apply basic accounting principles and their role in financial reporting.	- The Entity Concept- The Reliability (or Objectivity) principle- The Cost Principle- The Going-Concern Assumptions- The Stable Currency Assumptions- Ethics - The Most Fundamental Principle of Accounting- Qualitative characteristics of Financial statements
Week 03	**The Recording Process**	Understand the process of recording transactions and how to apply it in accounting practice.	- The Recognition Issue- The Valuation Issue- The Classification Issue- The Recording Process- Analysis of Transaction- The Journal
Week 04	**The Recording Process (Continued)**	Understand the continuation of the recording process and its impact on financial reporting.	- The Ledger- Balancing the Accounts
Week 05	**Preparation of Financial Statements**	Learn how to prepare financial statements and understand trial balance adjustments.	- Preparing Trial Balance- Locating and correcting errors in recording process- Preparing Profit and Loss Account and Balance Sheet
Week 06	**Preparation of Financial Statements**	Understand how to finalize and ensure accuracy in financial statement	- Preparing Profit and Loss Account and Balance Sheet (Continued)

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	(Continued)	preparation.	
Week 07	**The Adjusting and Closing Entries**	Understand the need for adjusting entries and how to close the books properly at the end of the period.	- Need for Adjusting Entries- Recording adjusting entries- Preparing adjusted trial balance- Recording closing entries- Preparing post-closing trial balance- Preparing work-sheet
Week 08	**The Adjusting and Closing Entries (Continued)**	Learn the final steps of adjusting and closing entries in the accounting cycle.	- Preparation of Financial Statements
Week 09	**Accounting for Trading Organizations**	Learn accounting practices used in trading organizations and how to manage inventory and sales systems.	- The Purchase Function- Accounting for Purchases and Sales- Return and allowances- Periodic System- Perpetual System- Worksheet
Week 10	**Accounting for Trading Organizations (Continued)**	Understand the importance of proper documentation and reporting in trading organizations.	- Preparation of Financial Statements- Departmental Accounts- Accounting Systems- Developing a System
Week 11	**Accounting for Trading Organizations (Continued)**	Explore advanced accounting systems and subsidiary journals.	- Subsidiary Journals- Subsidiary Ledgers- Cash Book- Petty Cash Book- Control Accounts
Week 12	**Cash and Temporary Investment**	Learn how to manage cash and short-term investments, and prepare for bank reconciliation.	- Nature and Composition of Cash- Cash Management and Control- Maintaining Bank Account- Bank Reconciliation- Short-term investments
Week 13	**Accounting for Debtors and Stock**	Understand the treatment of bad debts and how to manage and value stock.	- Accounting Treatment of Bad Debts- Direct write-Off Method- Aging Schedule- Percentage of Sales Method- Recoveries of Bad Debts
Week 14	**Accounting for Debtors and Stock (Continued)**	Learn stock valuation methods and apply them in accounting practice.	- Stock- Measurement of Stock Quantity- Measurement of Stock Cost- Perpetual Stock System- Periodic Stock System
Week 15	**Accounting for Property, Plant and Equipment**	Learn how to account for the purchase, depreciation, and disposal of long-term assets.	- Property, Plant and Equipment- Lump-sum Purchase- Subsequent Expenditure- Depreciation methods- Revaluation- Review of Useful life
Week 16	**Accounting for Property, Plant and Equipment (Continued)**	Explore the accounting treatment for intangible and wasting assets.	- Intangible Assets and Amortization- Wasting Assets and Depletion

TEXT/REFERENCE BOOKS

1. Williams, Haka, Bettner: Financial & Managerial Accounting, Latest Edition, Prentice Hall
2. Professor Muhammad Ammanullah Khan: Financial Accounting, Latest Edition
3. Frank Wood's: Business Accounting 1, Eleventh Edition
4. Meigs and Meigs, Accounting for Business Decision, 9th Edition/Latest Edition

COURSE TITLE: PRINCIPLES OF MANAGEMENT
COURSE CODE: MGT-322
CREDIT HOURS: 03

COURSE DESCRIPTION AND GOALS

This is an introductory course about the management of organizations. It provides instructions on principles of management that have general applicability to all types of

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enterprises; basic management philosophy and decision making; principles involved in planning, organizing, leading, and controlling; and recent concepts in management. The principles learned in this course will allow the student to effectively work with and through others in an organization. The course will also encourage the students to explore and inquire the applicability of western management principles and theories in local settings. Besides, the course will discuss the Islamic perspective of managing businesses and organizations.

INTENDED LEARNING OUTCOMES

This course will cover the basic managerial functions of planning, organizing, leading, and controlling, we will also try to learn the evolution and best practices which are been used in today's modern era.

At the conclusion of this course, the student should be able to:

1. Hold informed conversations with functional specialists and understand how to draw effectively on their expertise in managing organizations.
2. Understand the relevance of the western management principles and theories, for local settings.
3. Understand the Islamic perspective of managing businesses and organizations.
4. Apply course concepts and theory in a practical context.
5. Integrate several of the disciplines studied

COURSE CONTENTS

Week	Topic	Objective	Content
Week 01	**Introduction to Management**	Understand the role and importance of management in an organization.	- Introduction to Management- Organization and the management process
Week 02	**The History and Evolution of Management**	Learn about the development of management theories and practices over time.	- The History and Evaluation of Management- Organizational theories and different approaches to management
Week 03	**The Organizational Culture and the Manager**	Explore the relationship between organizational culture and management.	- The Organizational Culture and the Manager- The External Environment and the Manager- The Internal Environment and the Manager
Week 04	**Foundations and Basic Elements of Planning**	Understand the fundamental principles and processes of planning in management.	- Foundations and Basic Elements of Planning- Process of Planning and MBO- Effective Strategic Planning
Week 05	**Decision Making**	Examine the decision-making process and the role of managers as decision makers.	- Decision Making- The Manager's Role as Decision Maker- Decision Making Process
Week 06	**Basics of Strategic Management**	Understand the fundamentals of strategic management and its processes.	- Basics of Strategic Management- Case of Strategic Management- Strategic Management Process
Week 07	**Organizational Structure**	Learn about different types of organizational structures and their impact on management.	- Organizational Structure- Types of Organizational Structures
Week 08	**Mid-Term Examination**	Assess understanding of the material covered in the first half of the course.	- Mid-Term Examination- Case Decision-Making
Week 09	**Human Resource Management (HRM)**	Understand HRM processes and their importance in managing human capital.	- Human Resource Management- HRM Processes
Week	**Motivation and its**	Learn about the theories of	- Motivation and its Theories-

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10	**Theories**	motivation and current issues related to motivating employees.	Current Issues in Motivation
Week 11	**Teamwork and Group Behavior**	Explore how teamwork and group behavior impact organizational effectiveness.	- Teamwork and Group Behavior- Case of Team and Teamwork
Week 12	**Leadership and Its Characteristics**	Understand the characteristics of effective leadership and leadership styles.	- Leadership and its Characteristics- Leadership Styles and Behaviors
Week 13	**The Process of Control**	Learn the process of control and how to set control standards in management.	- The Process of Control- The Control Standards
Week 14	**Case of Controlling**	Apply controlling processes to real-world situations through case studies.	- Case of Controlling- Presentation
Week 15	**Staffing**	Understand the staffing function in management and its role in organizational success.	- Staffing- Presentation
Week 16	**Conclusion Session**	Review and conclude the course, preparing for the final exam.	- Conclusion Session- Terminal Exam

RECOMMENDED TEXT BOOKS

1. Mary Coulter & Robbins, Management, International Ed.
2. Terry, Prentice Hall USA "Principles and Practice of Management" (1998 Edition)
3. P.F. Duck Ker, Macmillan, London, "Practice of Management" (1997 Edition)
4. Prof. Fazli Wahid IBMS/CS Agricultural University Peshawar "Fundamentals of Management" (2004 Edition)

COURSE TITLE: MATHEMATICAL ECONOMICS-II
COURSE CODE: EC-511
CREDIT HOURS: 03

Objectives

Objectives: The course is designed for senior undergraduates more interested in quantitative economics. The objective is to confront the students to advanced mathematical techniques so as to enable them handle economic models, interpret the results and solve complex problems.

The students may be given assignments and exercises from the texts and weekly or fortnight class tests and quizzes including MCQ's.

Course Contents

Week	Topic	Objective	Content
Week 1	**Comparative Statics Analysis of General Function Models**	Understand comparative statics analysis using general function models and the application of differentials.	- Comparative Statics Analysis of general function models- Differentials, Total differentials and rules of differentials
Week 2	**Comparative Statics Analysis (Continued)**	Deepen understanding of comparative statics and its economic applications.	- Comparative Statics Analysis of general functions

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Week 3	**Optimization and Equilibrium Analysis**	Learn optimization techniques and their application to equilibrium analysis.	- Optimization as a special variety of equilibrium analysis- Relative maximum & Relative minimum- Higher order derivatives and Maclaurin and Taylor series
Week 4	**Exponential and Logarithmic Functions**	Explore exponential and logarithmic functions and their derivatives in economic contexts.	- Exponential and logarithmic functions- Natural exponential functions and the problem of growth- Derivatives of exponential and logarithmic functions
Week 5	**Functions of More Than One Variable**	Analyze optimization problems with more than one choice variable and extreme values of functions.	- The case of more than one choice variable- Extreme values of a function of two variables
Week 6	**Functions of More Than One Variable (Continued)**	Learn optimization techniques with multiple variables in a more detailed manner.	- The case of more than one choice variable (Continued)- Extreme values of a function of two variables (Continued)
Week 7	**Objective Functions with Multiple Variables**	Learn about optimization problems involving more than two variables and their concavity/convexity conditions.	- Objective functions with more than two variables- Second-order conditions in relation to concavity and convexity
Week 8	**Economic Applications of Objective Functions**	Apply concepts of optimization with multiple variables in economic scenarios.	- Economic Applications of Objective Functions
Week 9	**Optimization with Equality Constraints**	Understand optimization with constraints and the Lagrange multiplier method.	- Optimization with equality constraints- Finding the stationary values- Second-order conditions and Lagrange multiplier method
Week 10	**Optimization with Equality Constraints (Continued)**	Apply Lagrange multiplier method to different economic optimization models.	- Optimization with equality constraints (Continued)
Week 11	**Utility Maximization and Consumer Demand**	Study utility maximization theory and the demand curve derived from consumer preferences.	- Utility maximization and consumer demand- Homogenous functions- Least cost combination of inputs
Week 12	**Utility Maximization and Consumer Demand (Continued)**	Apply utility maximization in consumer demand and analyze economic models.	- Utility maximization and consumer demand (Continued)
Week 13	**Economic Dynamics and Integral Calculus**	Apply integral calculus to economic models, including growth models and dynamic systems.	- Economic Dynamics and Integral Calculus- Dynamics and Integration- Definite and Indefinite Integrals- Improper Integrals
Week 14	**Economic Dynamics and Integral Calculus (Continued)**	Explore applications of integrals in economic models like the Harrod Domar Growth Model.	- Some Economic Applications of Integrals- Harrod Domar Growth Model
Week 15	**First-Order Differential Equations**	Understand and solve first-order differential equations with applications in market dynamics.	- Continuous Time: First-order differential equations- First-order linear differential equation with constant coefficient and constant term- Dynamics of Market Price
Week	**Higher Order**	Learn how to solve and analyze	- Higher Order Differential

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16	**Differential Equations**	second-order differential equations in dynamic economic models.	Equations- Second-order Differential Equations- Analysis of complex root case- Market Model with expectations- Interaction of Inflation and Unemployment

Recommended Books

- Chiang A.C and Kevin Wainwright - Fundamental Methods of Mathematical Economics- 4th Edition (2005) McGraw Hill Publishing Company.
- Gandalfo, G – Economic Dynamics: Methods and Models – (1983 or Latest Edition)
- North Holland Publishing Company
- Dowling Edward T. -Mathematics for Economics: Schaum Series (1981).
- 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 – (1996) - Addison & Wesley Publishers.
- Shone, R – Economic Dynamics: Phase Diagrams and their Economic Applications- (1997)- Cambridge University Press.

COURSE TITLE: MICROECONOMIC ANALYSIS
COURSE CODE: EC-512
CREDIT HOURS: 03

Objectives

The course is designed for senior undergraduates. The objective is to confront them to advanced theoretical concepts and rigorous analysis with mathematical tools at hand. They have to develop the analytical skills and to enhance the capabilities to solve somewhat complicated problems. As usual, the teacher is expected to draw examples from the surrounding world for exposition.

The students may be given frequent assignments and exercises from the texts, which may be discussed by the teacher in the class after submission. The students should be motivated to use computer for solving the assignments.

COURSE CONTENTS:

Week	Topic	Objective	Content
Week 1	**Introduction to Microeconomics**	Understand the economic problem and the framework of microeconomics.	- The Economic Problem- Basic economic agents- Microeconomics and Macroeconomics- Types of Microeconomic Analysis- Framework of Microeconomics
Week 2	**Consumer Preferences and Budget Constraint**	Explore consumer preferences, budget constraints, and how they determine consumer choices.	- Consumer Preferences- Consumption bundle- Axioms of consumer preferences- Budget Constraint
Week 3	**Utility Maximization and Marshallian Demand**	Learn utility maximization subject to budget constraints and derive Marshallian demand.	- Utility maximization subject to budget constraint- Marshallian demand function (Concept, Derivation and Properties)
Week 4	**Indirect Utility and Hicksian Demand**	Understand indirect utility function and derive Hicksian demand, emphasizing their duality.	- Indirect utility function (Concept, Derivation and Properties)- Hicksian demand function (Concept, Derivation and Properties)- Duality between Hicksian and Marshallian demand functions

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Week 5	**Expenditure Function and Duality in Consumer Theory**	Study the expenditure function and duality between utility functions and demand functions.	- Expenditure Function (Concept, Derivation and Properties)- Duality between utility function and indirect utility function
Week 6	**Choice Under Uncertainty and Consumption Over Time**	Analyze consumer decision-making under uncertainty and over time.	- Choice under uncertainty (elementary treatment)- Consumption over Time (elementary treatment)
Week 7	**Producer Theory - Constraints of Production**	Understand the technical constraints in production, types of inputs, and production functions.	- Constraints of Technical Constraints: Production process, Types of inputs, Concept of net output- Production set- Iso-quants, Technical rate of substitutions
Week 8	**Elasticity, Returns to Scale, and Technology**	Learn about elasticity of substitution, returns to scale, and different types of technologies.	- Elasticity of substitution- Returns to scale- Homogeneous and homothetic technologies- Euler's theorem
Week 9	**Production Functions and Technological Classifications**	Study various production functions and their economic implications.	- Production function types: Fixed coefficients, Leontief, Cobb-Douglas, CES, Transcendental logarithmic production functions
Week 10	**Market Constraints - Price and Quantity Constraints**	Explore market constraints, including pricing and quantity restrictions in various markets.	- Price constraints (price takers, price regulations)- Quantity constraints (Quota, negatively sloped demand curve, kinked demand curve)
Week 11	**Producer Theory - Financial Constraints and Cost Theory**	Learn about financial constraints, cost functions, and the different types of costs in production.	- Financial Constraints: Budget Constraint, Cost of Production- Economic Cost, Private Cost, External Cost, Implicit Cost, Explicit Cost- Cost equation and Cost Function
Week 12	**Market Structure - Perfect Competition**	Understand the characteristics and outcomes of a perfectly competitive market.	- Characteristics of perfect competition- Price-taking behavior- Profit maximization in perfect competition- Short-run and long-run equilibrium in perfect competition
Week 13	**Market Structure - Monopoly**	Study the monopoly market structure, price setting, and the inefficiencies it creates.	- Monopoly market characteristics- Price-setting behavior in a monopoly- Profit maximization and market power- Deadweight loss in monopoly
Week 14	**Market Structure - Oligopoly and Duopoly**	Learn about oligopoly and duopoly market structures and the strategic interactions among firms.	- Oligopoly market characteristics- Kinked demand curve model- Cartels and collusion- Duopoly models (e.g., Cournot, Bertrand)
Week 15	**Market Structure - Monopsony and Imperfect Competition**	Study the monopsony market structure and the effects of imperfect competition.	- Monopsony market structure- Imperfect competition and pricing- Labor market monopsony- Effects on wages and employment
Week 16	**Welfare Economics and Review**	Understand welfare economics, Pareto efficiency, and its role in evaluating market outcomes.	- Welfare Economics: Pareto efficiency, social welfare function- Review of key topics covered in the course

TEACHING METHODOLOGY:

□ Lectures □ In Class Activities □ Written Assignments

TEXT AND REFERENCE BOOKS

1. Nicholson, W., & Snyder, C. (2021). *Microeconomic theory: Basic principles and extensions* (11th ed.). Cengage Learning.

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2. Gravelle and Rees, Microeconomics, Third Edition, Pearson Education,
3. Varian H. R. Microeconomic Analysis, Third Edition, W.W. Norton and Company, New York, 1992
4. Silberberg E. The Structure of Economics: A mathematical analysis, Second Edition, McGraw Hill publishing Company, 1999

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THIRD YEAR: SIXTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
82.	GEOL-567	Interdisciplinary-III	Introduction to Economic Geology of Pakistan	03
83.	EC-521	Major-Economics	Macroeconomic Analysis	03
84.	EC-522	Major-Economics	Islamic Economics	03
85.	EC-523	Major-Economics	Advanced Econometrics	03
86.		Major-Economics (Optional-III)		03
87.	EC-698*	Mandatory Requirement	Field Experience/ Internship	03
Total Credit Hours				**18**

COURSE TITLE: INTRODUCTION TO ECONOMIC GEOLOGY OF PAKISTAN
COURSE CODE: GEOL-567
CREDIT HOURS: 03

Objectives

This course is designed to acquire knowledge about the formation of various types of economic mineral deposits and their significance. This will help the students to understand the processes which are involved in the genesis of various ores deposits, hydrocarbons, gemstones, and other industrial minerals.

Course Contents

Introduction to economic minerals and rocks and their classification; introduction of geological exploration/prospecting; brief description of economic minerals such as fuel minerals, gemstones, copper, lead, zinc, iron, gold, chromite, manganese, salt, gypsum, bauxite, Sulphur, barite, fluorite, clays, phosphorite, building and dimension stones, industrial rocks and minerals, radioactive minerals and rocks with special reference to Pakistan.

Labs: Identification and description of economic minerals in lab exercises.

Recommended Books

1. Metals and Society: An Introduction to Economic Geology by Arndt, and C. Ganino – 2012, Springer.
2. Economic Geology: Principles and Practice by Walter L. Pohl – 2011, John Wiley and Sons.
3. Introduction to mineral exploration by Charles and Micheal. 2006, Black well.
4. Handbook of mineral and coal exploration in British Colombia by Aime and MABC.2009, Springer.
5. Directory of Mineral Deposits of Pakistan by Zaki, A., 1969, Geological Survey of Pakistan.
6. Ore Deposits by Park, C.F. and MacDiarmid, R.A., 1970, W. H. Freeman and Co.
7. Economic Mineral Deposits by Jenssen, M.L. and Bateman, A.M., 1972, John Wiley and Sons.
8. Mineral Prospecting Manual by Chausier, J.B., 1987, North Oxford Academic Press.
9. An Introduction to Ore Geology by Evans, A.M., 1987, Blackwell.
10. Atlas: Economic Mineral Deposits by Dixan, C.J., 1979, Chapman Lordin and Hall.

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11. Metallogeny and Mineral Deposits of Pakistan by Kazmi, A.H. and Abbas, S.G., 2001, Orient Petroleum Inc.

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COURSE TITLE: MACROECONOMIC ANALYSIS
COURSE CODE: EC-521
CREDIT HOURS: 03

Objectives

The course is designed for senior level undergraduate students. The objective is to enhance their analytical skills and to clarify further their macroeconomic concepts with quantitative tools at hand. They must have a strong theoretical foundation so as to understand the real problems of the economy with particular emphasis on inflation, unemployment, instability, deficit and debt etc. to which the developing countries are confronted at present.

Homework: The students may be given frequent assignments and exercises from the texts, Economic Survey, reports of the State Bank as well as from articles appearing in the press. The students should be motivated to use computer for solving the assignments.

Course Contents

Week	Topic	Objective	Content
Week 1	Introduction to Macroeconomics and the Classical Model	Understand the foundational concepts of the Classical framework in macroeconomics.	- The Classical model overview - Say's Law of Markets - The Quantity Theory of Money - The Marginal Productivity Theory - Equilibrium in the Goods and Money Markets - Dichotomy in the economy - A Critical Appraisal of the Classical Model
Week 2	The Keynesian Framework and Depression Economy	Explore Keynesian economics and its response to depression economies.	- Characteristics of a Depression Economy - The Consumption Function (Keynes) - The Liquidity Preference Function - Wage Rigidity in the Labor Market - Innovations due to Keynes in the economy
Week 3	IS-LM Model and Fiscal-Monetary Policy	Learn about the IS-LM model and the impact of fiscal and monetary policies.	- The IS-LM Model and its mathematical derivation - Interaction of Goods and Money Markets in a Closed Economy - Role of Public Sector Investment - The Multiplier Effects of Fiscal and Monetary Policies - Derivation of the Aggregate Demand Function
Week 4	Keynesian vs. Neoclassical Synthesis	Examine the integration of Keynesian and Neoclassical models.	- Keynesian-Neoclassical Synthesis - The Keynes Effect, Pigou Effect, and Real Balances Effect - Stabilization and Relative Effectiveness of Fiscal and Monetary Policies - Critique of the Keynesian Model from a Neoclassical Perspective
Week 5	Supply-Side Economics and Labor Market	Understand the dynamics of the labor market and wage determination.	- Demand and Supply of Labor - Wage Rate Determination: Rigidity vs. Flexibility - The Short-run Production Function - Full-employment vs. Under-employment - Scarcity of Raw Materials

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			and Energy
Week 6	Aggregate Supply and Stagflation	Analyze the impact of supply-side disturbances on the economy.	- The Aggregate Supply Curve under Classical and Keynesian Assumptions - Supply-Side Disturbances and Stagflation - Problems of Developing Countries: Shortage of Supply vs. Deficiency of Demand - The Scope for Structural Changes in Developing Economies
Week 7	The Open Economy Macroeconomics - Balance of Payments	Understand the open economy framework, including the Balance of Payments.	- Current and Capital Accounts in Balance of Payments - The IS-LM-FB model due to Mundell and Fleming - Case of a Small Open Economy (focus on developing economies) - Fiscal and Monetary Policies under Fixed and Floating Exchange Rates
Week 8	The Effectiveness of Policies under Different Exchange Rate Regimes	Examine fiscal and monetary policies under different exchange rate systems.	- Fixed vs. Floating Exchange Rate Regimes - Managed Exchange Rate Systems - Determinants of Exchange Rates - Devaluation and Its Impacts on Developing Countries - Perfect vs. Imperfect Capital Mobility
Week 9	Exchange Rates and Stabilization in a Global Framework	Understand exchange rate systems and the challenges of stabilization in a global context.	- Exchange Rate Determination - Devaluation and its Economic Impacts for Developing Countries - Problems of Stabilization in a Global Framework - Impact of Capital Mobility on Stabilization Policies
Week 10	Macroeconomic Policy Debate	Debate the effectiveness of active vs. passive policy actions in macroeconomics.	- Active vs. Passive Policy Actions - Expectations and the Lucas Critique - Formula/Rule vs. Discretion in Policy Conduct - Distrust of Policy Makers and Political Processes - Seignorage and Inflation: Monetarists vs. Activists
Week 11	Policy Formulation and Implementation	Explore the complexities of policy formulation and implementation under uncertainty.	- Fiscal, Monetary, and Commercial Policies - Policy Formulation and Implementation in a World of Uncertainty - The Short-run and Long-run Phillips Curve - Expectation-Augmented Phillips Curve
Week 12	Growth and Business Cycles - Accumulation of Capital	Analyze capital accumulation and its role in economic growth.	- Accumulation of Capital - Acceleration Principle and Steady-State Growth Path - Neoclassical Growth Model (Solow Model) - The Golden Rule for Consumption and Investment
Week 13	The Role of Technical Progress in Growth	Understand the impact of technical progress on economic growth.	- The Role of Technical Progress in Growth - Introduction to Real Business Cycles Theory - Technology Shocks, Household Behavior, and Output Fluctuations - Limitations of the Real Business Cycles Model
Week 14	Real Business Cycles and Economic Fluctuations	Learn about the dynamics of business cycles and fluctuations in output.	- Labor Market Dynamics in Business Cycles - Technology Shocks and their Impact - Household Behavior in Response to Economic Shocks - The Persistence of Output Fluctuations
Week	Policy and Economic	Examine stabilization policies	- Role of Policy in Economic

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15	Stabilization	and their effectiveness in reducing business cycle fluctuations.	Stabilization - The Impact of Fiscal and Monetary Policies in Reducing Output Fluctuations - Effectiveness of Stabilization Measures in Developed vs. Developing Economies
Week 16	Review and Final Exam Preparation	Review key topics from the entire course and prepare for the final exam.	- Review of Classical and Keynesian Frameworks - Open Economy Macroeconomics and Exchange Rates - Supply-Side Economics and Stagflation - Business Cycles and Growth Theory - Policy Debates and Economic Stabilization

Recommended Books

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

COURSE TITLE: ISLAMIC ECONOMICS
COURSE CODE: EC-522
CREDIT HOURS: 03

Objectives

The course is designed for senior students having gone through some basic courses in economic theory and development economics. The objective is to let them realize that Islam provides full guidance to its followers in all spheres of social life. The students have to understand the Islamic injunctions ordained for economic behavior, both in the individual as well as collective capacity. They have to compare the prevailing system with that devised by Islam, to capture the socio-economic problems faced by the present day Muslim countries and to find ways and means to reconstruct the system in vogue according to Islamic guidelines so as to achieve greater stability, equity in distribution and reduction in poverty as the primary goals of all developing nations.

Course Contents

Week	Topic	Objective	Content
Week 1	**Introduction to Islamic Economics**	Introduce the foundational concepts of Islamic economics, its goals, and	- What is Islamic Economics? - Historical context and development of Islamic economic thought - Key principles: Justice, fairness, and

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		methodology.	ethical behavior - Comparative analysis: Islamic vs. conventional economics
Week 2	**Basic Concepts of Islamic Economics**	Understand the moral and ethical framework in Islamic economics.	- The concept of *halal* (permissible) and *haram* (forbidden) in economic activities - The role of ethical values and social justice in economic transactions - Risk-sharing and profit-loss sharing in Islamic economics
Week 3	**The Role of Shariah in Economic Activities**	Examine the role of Islamic law (Shariah) in guiding economic behavior and transactions.	- The concept of *Riba* (interest) and its prohibition - The concept of *Zakat* (charity) and its economic implications - The role of *Gharar* (uncertainty) and *Maysir* (gambling) in Islamic finance and economics
Week 4	**Islamic Consumer Theory**	Explore Islamic perspectives on consumer behavior and decision-making.	- Consumer preferences in Islamic economics - The concept of utility and its limits in Islam - Islamic view on consumer sovereignty and consumption choices based on ethical values
Week 5	**Production and Distribution in Islam**	Learn about the Islamic approach to the organization of production and equitable distribution of resources.	- Islamic perspective on the means of production - The role of private and public sectors in resource allocation - Equitable distribution and wealth redistribution through Zakat and other social mechanisms
Week 6	**Islamic Business Organization**	Understand the structure and ethical considerations of businesses in Islam.	- The concept of Islamic business ethics - Partnership contracts (e.g., *Mudarabah*, *Musharakah*) - The role of business in serving society's welfare - Islamic perspectives on corporate social responsibility
Week 7	**The Concept of Riba (Interest) and Its Impact**	Analyze the prohibition of interest in Islam and its impact on economic systems.	- Definition and types of *Riba* - The rationale behind the prohibition of interest in Islam - The consequences of *Riba* in conventional finance vs. Islamic finance - Alternatives to interest-based financial

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			systems
Week 8	**Islamic Money and Banking System**	Explore Islamic alternatives to conventional banking, including the concepts of Islamic banks and financial institutions.	- Overview of Islamic banks and financial institutions - Islamic finance products (e.g., *Murabaha*, *Ijarah*, *Istisna*) - Islamic banking operations and governance models - The role of Islamic banks in economic development
Week 9	**Islamic Finance Contracts and Instruments**	Study the various financial contracts and instruments used in Islamic finance.	- Detailed study of *Murabaha*, *Mudarabah*, *Musharakah*, *Ijarah*, and other contracts - Characteristics of Islamic finance instruments - The role of equity and risk-sharing in Islamic finance
Week 10	**Islamic Monetary and Fiscal Policy**	Examine the role of government in the Islamic economic system through monetary and fiscal policies.	- The role of the government in the economy according to Islam - Islamic views on taxation, government spending, and public debt - Monetary policy tools in Islamic economics
Week 11	**Development in Islamic Economics**	Learn about economic development strategies in Islamic economics, focusing on sustainability and social welfare.	- Islamic perspectives on sustainable development - The role of *Zakat* and *Waqf* in development - Poverty alleviation through Islamic finance - Islamic social finance institutions and their role in development
Week 12	**Islamic Banking and the Global Economy**	Explore the integration of Islamic banking and finance in the global economic system.	- The role of Islamic banks in the global economy - Challenges and opportunities for Islamic finance in a globalized world - Comparison of Islamic and conventional banking systems - The growth of Islamic finance worldwide
Week 13	**Macroeconomics in Islamic Perspective**	Understand the Islamic approach to macroeconomic concepts like inflation, unemployment, and economic growth.	- Islamic views on economic growth and development - Inflation and its impact in Islamic economics - Unemployment and labor market dynamics in Islamic economics - Role of Islamic policies in managing

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			macroeconomic stability
Week 14	**The Role of Zakat and Waqf in Islamic Economy**	Study the role of Zakat and Waqf in promoting social justice, poverty alleviation, and community development.	- The principles of Zakat and Waqf - Mechanisms for collecting and distributing Zakat - The role of Waqf in providing public goods and services - Impact of Zakat on income distribution and wealth equality
Week 15	**Islamic Approaches to Economic Crises**	Learn how Islamic economics addresses economic crises and their resolution.	- Islamic views on economic crises and their causes - The role of Islamic finance in crisis management - Comparison of Islamic vs. conventional approaches to financial crises - Case studies of Islamic interventions in crises
Week 16	**Review and Final Exam Preparation**	Review all key concepts from the course and prepare for the final examination.	- Summary of key topics covered throughout the course - Discussion on the integration of Islamic economics in the modern world - Final exam preparation: practice questions and case studies review

TEXT AND REFERENCE BOOKS:

Hafiz Muhammad Yasin & Attiq-uz-Zafar Khan (2016). *Fundamentals of Islamic economics and finance*. Islamic Research and Training Institute (IRTI), Islamic Development Bank.

Abdel-Fattah, A. (2012). *Islamic economics: A short history*. Routledge.

Hassan, M. K., & Lewis, M. K. (2007). *Islamic banking and finance: The new challenge for economic development*. Edward Elgar Publishing.

Usmani, M. T. (2002). *An introduction to Islamic economics*. Kluwer Law International.

COURSE TITLE: ADVANCED ECONOMETRICS
COURSE CODE: EC-523
CREDIT HOURS: 03

Objectives

The course is designed for senior undergraduates more inclined towards quantitative studies. The objective is to enable the students dive deep into complex problems of the real world economic life. They have to understand data problems, to have good grasp over advanced estimation techniques and to have the capability of inferring results accurately. The students have to learn certain computer packages like SPSS, E-

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views and Strata besides Excel.

Laboratory work: The students are required to devote at least one hour per week to computer laboratory. They have to develop the capacity to read and understand papers that appear in research journals.

Course Contents

Week	Topic	Objective	Content
Week 1	**Introduction to Advanced Econometrics and Relaxing OLS Assumptions**	Understand the basics of econometrics and common issues in Ordinary Least Squares (OLS) estimation.	- Relaxing OLS assumptions - Multicollinearity and its problems - Heteroskedasticity in OLS estimations - Autocorrelation and its implications in regression models - Diagnostic tests in econometric models
Week 2	**Multicollinearity and Heteroskedasticity**	Learn how multicollinearity and heteroskedasticity impact econometric estimations.	- Multicollinearity: Definition, causes, and solutions - Detecting multicollinearity - Heteroskedasticity: Identification, impact, and remedies
Week 3	**Autocorrelation and Model Diagnostics**	Understand autocorrelation in time series data and its effects on model validity.	- Autocorrelation: Causes, types, and detection - Consequences of autocorrelation in regression - Model specifications and diagnostic tests
Week 4	**Simultaneous Equation Models (SEM): Introduction and Identification**	Introduce simultaneous equations models (SEMs) and the problem of identification in econometrics.	- Introduction to SEM - Identification issues in SEM - Methods of solving simultaneous equations - Estimation challenges in SEM
Week 5	**Techniques for Estimation in Simultaneous Equation Models**	Examine estimation methods for simultaneous equations, focusing on the difficulties and strategies involved.	- Estimation techniques: 2SLS, 3SLS, GMM, GLS - Problems in estimation - Instrumental variables and their role in SEM
Week 6	**Time Series Econometrics: Introduction and Models**	Understand the foundations of time series analysis and the key models in time series econometrics.	- Introduction to time series econometrics - Deterministic vs stochastic models - Overview of AR, MA, ARMA, ARIMA models
Week 7	**Univariate Time Series Models: AR, MA, ARMA, ARIMA**	Focus on univariate time series models, including AR, MA, ARMA, and ARIMA.	- AR (Auto-regressive) and MA (Moving Average) models - ARMA (Auto-Regressive Moving Average) model - ARIMA (Auto-Regressive Integrated Moving Average) model
Week 8	**Advanced Time Series Methods: Forecasting and Box-Jenkins**	Learn the forecasting techniques and Box-Jenkins methodology in time series analysis.	- Time series forecasting techniques - Box-Jenkins methodology for time series analysis
Week 9	**Stationarity, Unit Roots, and Cointegration**	Study the concepts of stationarity and unit roots in time series and their relationship to long-term equilibrium in econometrics.	- Stationarity and unit roots - Unit root tests (ADF, Phillips-Perron) - Cointegration and its importance - Engle-Granger cointegration approach
Week 10	**Multivariate Time Series Analysis: VAR and SVAR Models**	Understand the structure and application of Vector Autoregressive (VAR) and Structural VAR models in econometrics.	- Introduction to multivariate time series analysis - VAR (Vector Autoregressive) models - SVAR (Structural VAR) models - Applications and limitations
Week	**Cointegration Models**	Analyze the long-run relationships	- Engle-Granger cointegration

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11	**and Error Correction Models**	between time series using cointegration and error correction models.	model - Johansson and Juselius (JJ) cointegration methodology - Autoregressive Distributive Lags (ARDL) - Error correction models (ECM, VECM)
Week 12	**Panel Data Econometrics: Introduction and Models**	Explore the theory and application of panel data econometrics.	- Panel data analysis: Definition and types - Fixed effects vs. Random effects models - Hausman test for model selection
Week 13	**Instrumental Variables and Advanced Panel Data Models**	Dive deeper into instrumental variables and advanced panel data estimation techniques, including 2SLS, 3SLS, and GMM.	- Instrumental variables (IV) and identification - 2SLS, 3SLS estimation techniques - GMM (Generalized Method of Moments) for panel data
Week 14	**Dynamic Panel Data Models: Estimation Techniques**	Examine dynamic panel data models and advanced estimation techniques like Arellano and Bond estimators.	- Dynamic panel data models - Arellano and Bond (1991) estimators - Arellano and Bover (1995) estimators - Blundell and Bond (1998) estimators
Week 15	**Non-Linear Regression and Limited Dependent Variables Models**	Study non-linear regression models and models for limited dependent variables such as Logit, Probit, and Tobit.	- Non-linear regression models - Logit and Probit models - Ordered Logit, Multinomial Logit, Tobit, and Negative Binomial models
Week 16	**Review of Panel Cointegration, Unit Roots, and Course Wrap-Up**	Review key concepts of cointegration and unit roots in panel data and provide a comprehensive review for the final exam.	- Panel cointegration and unit roots - Overview of time series and panel data econometrics - Review of key techniques and models - Final exam preparation

Recommended Books

- Johnston, J & John Dinardo- Econometric Methods – 4th Edition (1997) The McGraw Hill Companies, Inc, Singapore.
- Intrilligator, M - Econometric Models: Techniques and Applications- N. J. Prentice Hall, (Latest).
- Judge, George G. et al - The Theory and Practice of Econometrics- (1988).
- Gujarati, D., *Essentials of Econometrics*, McGraw Hill,
- Kennedy, P., A Guide to Econometrics, MIT Press
- Maddala, G.S., Econometrics, McGraw Hill,

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FOURTH YEAR: SEVENTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
88.	MGT-611	Interdisciplinary-IV	Business Law	03
89.	EC-611	Major-Economics	Research Methods for Economists	03
90.	EC-612	Major-Economics	Public Sector Economics	03
91.	EC-613	Major-Economics	Monetary Economics	03
92.	EC-614	Major-Economics	Development Economics	03
93.		Major-Economics (Optional-IV)		03
Total Credit Hours				**18**

COURSE TITLE: BUSINESS LAW
COURSE CODE: MGT-611
CREDIT HOURS: 03

COURSE DESCRIPTION

The course basically deals with the introduction of those commercial laws which are directly or indirectly related to Business. It includes a short study of contract law, partnership Act, companies" ordinance and Negotiable instrument. The emphasis in this course is to introduce the students with the basic concepts of conventional business law and its implementation in the contemporary financial institutions. The course is outlined in such a way to show the basic philosophy of conventional Business Law along with some example from case study.

LEARNING OUTCOMES

At the conclusion of this course, the student will be:

1. To provide basic philosophy of conventional Business Law so to enable a student to critically analyze these laws with those present in other legal system.
2. At the conclusion of this course, the student will be:
3. To know about the basic concepts of conventional business law.
4. To know about basic aspect of conventional Business Law
5. To explain that how such different aspects can be practically applied in the modern market
6. Can determine various hurdles in the way of implementation of such Laws in the modern market
7. Can put forward some suggestion that how such hurdles can be removed
8. Can describe easily advantages of conventional Business Law in the business activities
9. Can describe disadvantages of conventional Business Law
10. Can determine that how business can be made profitable in the eyes of philosophy of such Laws
11. Can compare the conventional Business Law with other conventional business laws

COURSE CONTENTS

Week	Topic	Objective	Content
Week 1	**Introduction to Laws and Business Entities**	Define the key legal terms, classification of laws, and business entities.	- Definition and classification of laws - Overview of general and commercial terms - Business entities: Sole proprietorship, partnership, joint stock companies - Definition of a contract and its essential elements

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Week 2	**Contract Law**	Learn the legal provisions governing contracts, offers, acceptance, and consideration.	- Essential elements of a valid contract - Legal provisions governing offers, communication, acceptance or counter offer - Consideration, agreement, lawful purpose - Parties to the contract and their intent
Week 3	**Partnership: Definition and Essential Elements**	Understand the concept of partnership and its comparison to other business entities.	- Definition of a partnership - Essential elements of partnership - Partnership deeds - Rights and duties of partners - Partnership vs. sole proprietorship and companies
Week 4	**Partnership Liabilities and Dissolution**	Study the liabilities of partners, ownership of firm assets, and dissolution of partnership.	- Individual and joint liabilities of partners - Principles governing ownership of firm's assets and profit distribution - Implied and specific authority of partners - Principle of holding out - Dissolution of partnership
Week 5	**Limited Liability and Juristic Person**	Learn about the concept of limited liability, incorporation process, and types of companies.	- Concept of limited liability and juristic person - Requirements and process of incorporation - Effects of incorporation - Types of joint stock companies by nature and formation - Ownership and management of companies
Week 6	**Rights and Duties in Companies**	Understand the rights of shareholders, duties of directors, and statutory provisions for company management.	- Rights of shareholders - Rights, power, and duties of the Board of Directors - Election of Directors - Meeting of shareholders and Board of Directors - Disclosure requirements and financial statements
Week 7	**Listed vs Non-Listed Companies**	Study the differences between listed and non-listed companies, and learn about stock exchange listings.	- Listed vs. non-listed companies - Advantages and disadvantages of listing - Listing requirements of stock exchanges - Salient provisions of the Code of Corporate Governance - Role of Securities and Exchange Commission of Pakistan
Week 8	**Corporate Governance and Regulatory Bodies**	Explore corporate governance practices and the role of regulatory bodies.	- Code of Corporate Governance - Salient provisions and enforcement - Role of Securities and Exchange Commission of Pakistan as the corporate watchdog
Week 9	**Mid-Term Exam**	Assess students' understanding of the course content up to this point.	- Mid-Term Exam
Week 10	**Contract of Sale: Nature and Conditions**	Study the nature, conditions, and warranties in contracts of sale.	- Definition and nature of the contract of sale - Conditions and warranties in sales contracts
Week 11	**Sale Contract Performance and Delivery**	Understand the legal provisions related to performance, delivery, and unpaid sellers in the contract of sale.	- Transfer of property - Performance of the contract of sale - Delivery of goods - Unpaid seller and auction sale - Consignment basis - Delivery against advance payment - Types of letters of credit
Week 12	**Indemnity, Guarantees,**	Study various legal agreements and security	- Laws relating to indemnity, guarantees, bailment, hypothecation, pledge, and

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	Bailment, and Other Security Instruments	instruments such as indemnities, guarantees, and mortgages.	mortgage - Agency agreements
Week 13	**Banking Law and Negotiable Instruments**	Learn about the evolution of banks and the characteristics of negotiable instruments under the Negotiable Instruments Act.	- Evolution of banks - Types and major functions of banks - Negotiable instruments Act - Definition and characteristics of negotiable instruments
Week 14	**Bill of Exchange and Promissory Notes**	Study the laws governing bills of exchange, promissory notes, and the parties involved.	- Bill of exchange and promissory notes - Parties to instruments - Negotiation and endorsement - Liabilities of parties - Payment and discharge of liabilities
Week 15	**Revision**	Revise the key concepts covered in the course in preparation for the final exam.	- Comprehensive review of all topics covered in the course
Week 16	**Final Exam**	Test the students' overall understanding of the entire course.	- Final Exam

RECOMMENDED BOOKS

1. Dr. Khwaja Amjad Saeed, Mercantile and Industrial Laws in Pakistan Latest Edition, Institute of Business Management.
2. Nazir Ahmad Shaheen, Practical approach to the Companies Ordinance, Latest Edition, PLD.

RECOMMENDED REFERENCE BOOKS

1. Sajid A Qurashi, Business Law, Latest Edition.
2. Liaqat Ali Butt, The Negotiable Instrument, Latest Edition, PLD.

COURSE TITLE: RESEARCH METHODS FOR ECONOMISTS
COURSE CODE: EC-611
CREDIT HOURS: 03

COURSE AIMS AND OBJECTIVE:

The course aims to learn about the basic concepts of economic research, various research methodologies, both quantitative and qualitative. The students will learn about the usage of various methodologies while conducting research on different topics. The main tools and research techniques will be studied. It is assumed that the students have a background in basic statistics and in economic thought and philosophy. The students will also learn about certain specific computer software like SPSS, NUDIST and Ethnography.

COURSE OUTLINES:

Week	Topic	Objective	Content
Week 1	Introduction to Research in Social Sciences	Understand the significance and nature of research in social sciences, especially economics.	- What is research in economics? - The role of research in social sciences - Types of research: Descriptive, analytical, and applied - Research process overview and steps
Week 2	Formulation of Research Problem	Learn how to identify and formulate a research problem in economics and social sciences.	- Importance of research problem - Sources of research problems - Considerations in formulating research problems - Steps in formulating a research problem - Setting objectives for research

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Week 3	Review of Literature	Explore the process of reviewing literature and how to build the foundation for a research problem.	- Purpose of literature review - Identifying and analyzing sources - Synthesizing literature and forming research gaps - Writing the literature review
Week 4	Formulation of Research Objectives	Understand how to develop clear, measurable, and achievable research objectives.	- Defining clear research objectives - Relationship between objectives and research problem - How to structure and prioritize objectives
Week 5	Operational Definitions and Variables	Learn how to define and operationalize key variables in social science research.	- Introduction to variables in research - Concept, indicators, and variables - Types of variables: Independent, dependent, control - Difference between concepts and variables
Week 6	Measurement in Social Science Research	Explore the importance and techniques of measuring variables in economics research.	- Why measurement matters in social science research - Qualitative vs. quantitative measurement - Levels of measurement: Nominal, ordinal, interval, ratio - Measurement scales and types
Week 7	Validity and Reliability in Research	Understand the concepts of validity and reliability, and their importance in ensuring research quality.	- Definitions and concepts of validity - Types of validity: Content, construct, criterion-related - Reliability in research - Methods to ensure reliability - How to improve reliability
Week 8	Data Collection Methods	Introduce the various data collection methods used in economics and social science research.	- Interviews and interview schedules - Questionnaires and surveys - Focus group discussions (FGD) - Observation method - Experimental and case study methods
Week 9	Qualitative and Quantitative Data Collection	Explore the different approaches to data collection, with a focus on qualitative and quantitative techniques.	- Survey methods in social sciences - Experiments and case history methods - Content analysis in social research - Ethical considerations in data collection
Week 10	Data Collection Tools: Interviews, Questionnaires, and Surveys	Dive deeper into the tools and techniques used for data collection in economics research.	- Designing interview schedules and questionnaires - Types of questions: Open-ended, closed-ended - Designing valid and reliable surveys - Analyzing survey data
Week 11	Focus Group Discussions and Observation Techniques	Learn the techniques for conducting and analyzing focus group discussions and observational research.	- Conducting and analyzing FGDs - Observation: Participant vs. non-participant - Case studies and their role in economics research
Week 12	Case Study and Case History Methods	Understand how to use case studies and case history methods for in-depth research analysis in economics.	- Case study method in economics - Case history method and its significance - How to write and analyze case studies in social science research
Week 13	Thesis Writing and Structuring the Report	Develop skills to structure and write a research thesis or report.	- Writing a research report in economics - Structuring the thesis: Introduction, literature review, methodology, analysis, conclusion - Writing a clear and concise report
Week	Referencing,	Learn the correct citation	- How to properly reference sources in

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14	Citations, and Bibliographies	methods and how to reference sources in economic research reports.	economics - Citation styles: APA, MLA, Chicago - Writing a bibliography and avoiding plagiarism
Week 15	Data Analysis and Interpretation	Focus on interpreting the collected data and making inferences in the context of economic research.	- Interpreting qualitative and quantitative data - Drawing inferences from data - Presenting data through graphs, tables, and charts - Writing results and discussion sections
Week 16	Review, Final Exam Preparation, and Final Project Submission	Recap key concepts and prepare for the final exam and project submission.	- Review of all research methods topics - Discuss final project submissions - Final exam preparation: key concepts, methods, tools and techniques

COURSE RECOMMENDED BOOKS:

1. Alwin, Duane.F. (2007). Margins of Error; A Study of Reliability in Survey Measurements. U.S.A : John Wiley & Sons, Inc.
2. Babbie, Earl. (2004). The Practice of Social Research. 10th Edition. Belmont: CA Words Worth Publishing.
3. Jackson, Sherri.L. (2008). Research Methods: A Modular Approach. USA: Thomson Higher Education.

COURSE TITLE: PUBLIC SECTOR ECONOMICS
COURSE CODE: EC-612
CREDIT HOURS: 03

COURSE DESCRIPTION:

The course is intended to equip students with theoretical and analytical issues of Fiscal Policy. It starts with the basic topology of Fiscal interventions and its impact on macro variables. Then gradually moving towards Public Choice models and concluding at the fiscal deficit issues. Then we will move towards the stand alone topics such as fiscal federalism, Fiscal Policy in an Islamic Economy and collaboration of monetary and fiscal policy etc.

COURSE OBJECTIVES:

1. To understand the rationale of government interventions
2. To equip students with issues of fiscal policy

COURSE LEARNING OUTCOMES:

Upon Successful Completion, the Students Should be able to:

- UNDERSTAND scope of fiscal policy issues
- ACQUIRE knowledge of analytical details in gauging the policy impacts
- UNDERSTAND fiscal policy mechanism of Pakistan

COURSE CONTENTS:

Week	Topic	Objective	Content
Week 1	Introduction to Public Sector Economics	Understand the role and scope of public sector economics.	- Definition and importance of public sector economics - Role of government in the economy - Public goods vs private goods - Overview of public sector in economic theory
Week 2	Fiscal Policy in Equilibrium Models	Explore how fiscal policy impacts economic equilibrium in models.	- Introduction to macroeconomic equilibrium models - The role of fiscal policy in stabilizing economies - IS-LM model and fiscal policy interaction
Week 3	Goals of Macro-Economic Policy	Understand the macro-economic goals of fiscal	- Key goals: Full employment, price stability, economic growth - Inflation vs

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		policy.	unemployment trade-off (Phillips Curve) - How fiscal policy targets these goals
Week 4	Political Economy of Budget Deficits	Analyze the political and economic factors influencing government budget deficits.	- Budget deficits: Political vs economic causes - The role of political institutions and elections - Short-term vs long-term perspectives in budget deficits
Week 5	Tax Smoothing	Study the concept of tax smoothing in fiscal policy.	- Definition and importance of tax smoothing - The impact of fluctuating tax rates on economic stability - Optimal tax policy for smooth government revenue streams
Week 6	Fiscal Policy Instruments as Automatic Stabilizers	Explore fiscal instruments that stabilize the economy automatically.	- Automatic stabilizers: Unemployment benefits, progressive taxation - How automatic stabilizers reduce the volatility of the economy - Examples and effectiveness of automatic stabilizers
Week 7	Deficits and Interest Rate	Examine the relationship between budget deficits and interest rates.	- The impact of government borrowing on interest rates - Crowding out effect and private investment - Deficit financing through bonds and its influence on market rates
Week 8	Government Budget Constraint	Understand the fundamental constraint on government budgeting.	- The government budget constraint (GBC) - Relation between government spending, taxation, and borrowing - Intertemporal budget constraint and the role of debt
Week 9	Ricardian Approach to Budget Deficits	Analyze the Ricardian equivalence in the context of budget deficits.	- Ricardian equivalence theory: Government borrowing vs taxation - Empirical evidence for and against Ricardian equivalence - Implications for fiscal policy
Week 10	Fiscal Sustainability	Explore the long-term sustainability of fiscal policies and government debt.	- Definition of fiscal sustainability - Debt-to-GDP ratio as an indicator - Policies to ensure sustainable fiscal practices
Week 11	Fiscal Decentralization	Study the distribution of fiscal responsibilities across different levels of government.	- Types of fiscal decentralization: Fiscal federalism - The impact of decentralization on regional development - Efficiency vs equity in decentralized fiscal systems
Week 12	Third World Debt Crisis	Analyze the causes and solutions of the Third World debt crisis.	- The origins of developing countries' debt crises - Debt restructuring and international financial institutions - Case studies of debt crises in Africa and Latin America
Week 13	Fiscal Policy and Long-Run Economic Growth	Examine the role of fiscal policy in long-run economic growth.	- Government investment in infrastructure, education, and technology - Fiscal policy's role in supporting long-term economic growth - Fiscal consolidation vs expansion in growth contexts
Week 14	Fiscal Policy in Pakistan	Study the current fiscal policy framework in Pakistan.	- Historical fiscal policy trends in Pakistan - Taxation, subsidies, and public debt management - Challenges facing Pakistan's fiscal policy in the 21st century

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Week 15	Fiscal Policy and Resource Allocation in Islam	Understand Islamic perspectives on fiscal policy and resource allocation.	- Principles of Islamic fiscal policy: Zakat, taxation, and wealth distribution - Resource allocation in Islamic economics - Islamic finance and its role in economic development
Week 16	Review, Final Exam Preparation, and Project Submission	Recap key concepts and prepare for the final exam and project submission.	- Review of all topics covered in the course - Discuss final project submissions - Final exam preparation: key concepts, methods, and tools

TEXT AND REFERENCE BOOKS:

- Froyen, Richard T., Macroeconomics: Theories and Policies, (latest edition), Prentice Hall International
- Romer David, Advance Macroeconomics, (latest edition) Edition, McGrawHill Irwin
- Brown C.V. & Jackson P.M., Public Sector Economics, (latest edition), Basil Blackwell,

COURSE TITLE: MONETARY ECONOMICS
COURSE CODE: EC-613
CREDIT HOURS: 03

Course Importance

This course will discuss the impact of monetary policy on the individual behavior and macro economy. The goal of this course is to develop and use a dynamic theoretical model of monetary decisions and study how money and financial markets, emphasizing the evolution and economic rationale of money and financial institutions, determinants of the price level and interest rates, alternative monetary policies, and international monetary relations.

Course Outline

Week	Topic	Objective	Content
Week 1	Introduction to Monetary Economics	Understand the role of monetary economics in the economy.	- Definition and importance of monetary economics - The role of money, banking, and financial markets - Overview of the structure of financial systems
Week 2	The Money Supply and Money Demand	Learn the basics of money supply determination and factors influencing money demand.	- Meaning of money and its functions: Medium of exchange, unit of account, store of value - Evolution of payment systems: Commodity money, fiat money - Factors affecting money demand
Week 3	Financial Markets: Structure and Function	Examine the role and structure of financial markets in the economy.	- Function of financial markets - Structure of financial markets: Debt and equity markets, primary and secondary markets - Exchanges and over-the-counter (OTC) markets
Week 4	The Bond Market and Interest Rates	Understand the bond market and its relationship to interest rates.	- Debt instruments: Bonds and their role in the economy - Measuring interest rates: Yield to maturity - Risk structure of interest rates and liquidity considerations
Week 5	The Stock Market	Explore how the stock market works and its impact on the economy.	- Stock market basics: Common and preferred stock - The one-period valuation model - The Gordon Growth Model for stock valuation
Week 6	The Foreign Exchange Market	Understand the functioning of foreign exchange markets and the role of exchange	- What are foreign exchange rates? - How exchange rates are determined - Intervention in the foreign exchange market and its impact on the money supply

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		rates.	
Week 7	The Role of Banks and Financial Institutions	Learn the structure and function of banks and financial institutions in the financial system.	- Banks and other financial institutions: Commercial banks, investment banks, insurance companies - The role of financial intermediaries in the economy - The banking balance sheet: Liabilities and assets
Week 8	Monetary Policy Tools and Central Banking	Explore how central banks manage the money supply and influence economic activity.	- The Federal Reserve System: Structure and functions - Tools of monetary policy: Open market operations, discount rate, reserve requirements - Federal funds rate and market for reserves
Week 9	The Money Multiplier and Money Supply Model	Understand the money multiplier and its role in the economy.	- Deriving the money multiplier - Factors determining the money multiplier - The relationship between the monetary base and the money supply
Week 10	Banking Management: Liquidity and Capital	Study the basic principles of banking management and capital adequacy.	- Liquidity management: Role of reserves - Asset and liability management - Capital adequacy and risk management
Week 11	Inflation, Money, and Interest Rates	Analyze the relationship between inflation, money supply, and interest rates.	- The Quantity Theory of Money - The relationship between money supply, inflation, and interest rates - Keynesian Liquidity Preference Theory and the role of money
Week 12	Financial Futures and Hedging	Explore how futures contracts and hedging strategies are used in financial markets.	- Types of financial derivatives: Forward contracts, futures contracts - Hedging strategies with futures - The role of financial futures markets
Week 13	Foreign Exchange Policy and Exchange Rate Systems	Understand exchange rate systems and their role in monetary policy.	- Fixed vs floating exchange rates - Currency boards and dollarization - The role of nominal anchors and exchange rate targeting
Week 14	Monetary Policy and Economic Growth	Examine the effects of monetary policy on long-term economic growth.	- The relationship between monetary policy and economic growth - Long-run effects of inflation and monetary expansion - The role of central banks in managing economic cycles
Week 15	The Financial Crisis and Central Bank Responses	Study the role of monetary policy during financial crises.	- Causes and consequences of financial crises - The role of central banks as lenders of last resort - Case studies of monetary policy responses during crises (e.g., 2008 Global Financial Crisis)
Week 16	Review and Final Exam Preparation	Recap key concepts and prepare for the final exam.	- Review of all topics covered - Discuss final exam preparation and key concepts - Project and assignment discussion

Recommended Books:

"The Economics of Money, Banking, and Financial Markets" by Frederic S. Mishkin Pearson education.

"Financial Markets and Institutions" by Frederic S. Mishkin and Stanley G. Eakins

Levinson, M. (2014). The economist guide to financial markets: Why they exist and how they work. The Economist.

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COURSE TITLE:	**DEVELOPMENT ECONOMICS**
COURSE CODE:	**EC-614**
CREDIT HOURS:	**03**

Objectives

The Development Economic will help to establish both the conceptual base and the analytical skills that are needed to harness local and regional economic change and help develop the capacity of institutions as agents of development. Its key concern is with the variety of ways in which national and regional governments and local agencies may be mobilized, managed and co-ordinate with the private sector in order to stimulate local economies. Students will also develop an understanding of the local, national and international trends in business organization, and a knowledge of the variety of agents that constitute the governance of local and regional economies.

COURSE CONTENTS

Week	Topic	Objective	Content
Week 1	Introduction to Development Economics	Understand the scope and importance of development economics.	- Definition of development economics - Key concepts: Economic development vs. economic growth - Theories of development economics - Historical context and evolution of development
Week 2	Measuring Economic Development	Learn the methods and indicators used to measure development.	- GDP, GNP, and HDI (Human Development Index) - Alternative indicators: Poverty rate, inequality, education, and health - The limitations of traditional measures of development
Week 3	Theories of Economic Development	Study various theories of economic development.	- Classical theories: Modernization theory, linear stages of growth (Rostow) - Structural-change models (Lewis, Chenery) - Dependency theory and world systems theory
Week 4	Economic Growth and Development	Explore the relationship between economic growth and development.	- Solow growth model and its implications - Endogenous growth theories - The role of technology and human capital in growth
Week 5	Poverty and Inequality	Analyze the causes and consequences of poverty and inequality in developing countries.	- Defining poverty: Absolute vs. relative poverty - Measuring inequality: Gini coefficient, Lorenz curve - Causes and consequences of inequality
Week 6	Population Growth and Development	Understand the relationship between population growth and development.	- The demographic transition model - Effects of population growth on economic development - Population policies and family planning
Week 7	Human Capital and Development	Learn the role of education, health, and skills in economic development.	- Investment in education and its impact on development - Health and nutrition: The role in development - Skills development and labor markets
Week 8	Agriculture and Rural Development	Study the role of agriculture in economic development.	- Agricultural productivity and its link to development - Land reforms, rural infrastructure, and market access - Sustainable rural development strategies
Week 9	Industrialization and Structural Change	Explore the process of industrialization and its	- Industrialization theories: Import-substitution vs. export-led growth - The

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		impact on development.	role of infrastructure and technology - Structural transformation in developing economies
Week 10	Trade and Development	Examine the role of international trade in economic development.	- Theories of trade: Comparative advantage and terms of trade - Trade policies: Protectionism vs. free trade - Globalization and its impact on developing countries
Week 11	Foreign Direct Investment (FDI) and Development	Study the role of foreign investment in promoting development.	- Types of foreign direct investment - FDI and technology transfer - The role of FDI in economic growth and poverty reduction
Week 12	Environmental Sustainability and Development	Analyze the relationship between economic development and environmental sustainability.	- The role of natural resources in development - The concept of sustainable development - Climate change and its impact on developing countries
Week 13	Financial Systems and Development	Understand the role of financial systems in supporting development.	- The role of financial markets and institutions in economic development - Microfinance and its impact on poverty reduction - The challenges of financial inclusion
Week 14	Development Policy: Case Studies	Examine real-world case studies of development policies.	- Case studies of successful development policies (e.g., East Asia's growth) - Analysis of policy failures in developing countries - Lessons from development experiences
Week 15	International Aid and Development	Explore the role of international aid in supporting development.	- Theories and types of foreign aid - The effectiveness of foreign aid in promoting development - Criticisms and challenges of foreign aid
Week 16	Review and Final Exam Preparation	Recap key concepts and prepare for the final exam.	- Review of all topics covered in the course - Discussion of final exam format and key concepts - Group discussion of development challenges and solutions

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TEACHING METHODOLOGY

 Lectures Written Assignments Guest Speakers (if any) Group Discussion Field Visits Report Writing/Case Studies Presentations

TEXT AND REFERENCE BOOKS:

1. Todaro, M. P. and S. C. Smith. (2011). Economic Development, 11th edition, Palgrave.
2. Debraj Ray (998). Development Economics, Princeton University Press.
3. Daron Acemoglu and James Robinson (2012). Why Nations Fails:

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FOURTH YEAR: EIGHTH SEMESTER				
S.NO	**COURSE CODE**	**COURSE TYPE**	**COURSE TITLE**	**CREDIT HOURS**
94.	EC-621	Major-Economics	Applied Economics	03
95.	EC-622	Major-Economics	Current Issues in Pakistan Economy	03
96.		Major-Economics (Optional-V)		03
97.		Major-Economics (Optional-VI)		03
98.	EC-699	Capstone Project	Research Thesis/ Project	03
Total Credit Hours				**15**

COURSE TITLE: APPLIED ECONOMICS
COURSE CODE: EC-621
CREDIT HOURS: 03

INTRODUCTION

Econometrics is a set of research tools used to estimate and test economic relationships. The methods taught in this course can also be employed in the business and economics and in many social science disciplines. This course is a continuation of Basic Econometrics and designed for senior undergraduate and graduate students. This Introduces students to multiple regression methods for analyzing data in economics and related disciplines. Extensions include regression with discrete random variables, instrumental variables regression, analysis of random experiments and quasi-experiments, and regression with time series and Panel data. The student should learn how to conduct – and how to analyze – empirical studies in economics and related fields. Accordingly, the emphasis of the course is on empirical applications. The mathematics of econometrics will be introduced only as needed and will not be a central focus. Students seeking a treatment of econometric theory with a higher level of mathematics should discuss the matter with instructor.

PRE-REQUISITS

The students should have taken the below mentioned courses before admitting in this course

1) Statistics-I
2) Statistics-II
3) Mathematical Economics
4) Basic Econometrics
5) Advanced Econometrics
6) Intermediate Microeconomics
7) Intermediate Macroeconomics.

OBJECTIVES

After taking this course, the students should be able to

1) Analyze and interpret regression outputs and conduct diagnostic tests
2) To enhance their knowledge about techniques used to estimate cross sectional, panel, and time series data
3) To develop skills for handling Time series data and have a knowledge of mathematical and theoretical simulations of time series models .

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4) To make student familiar with panel data models and the problems associated with estimations of static and dynamic panel models
5) To Introduce limited dependent variable models and maximum likelihood estimators

ROLE OF COMPUTER

For Practical application of econometric tools, some statistical software's like R-Programming Language. EVIEWS, STATA etc. will be used to handle large data sets in class or during lectures. The students should submit their assignments after analyzing the data through this software's.

ACADEMIC DISHONESTY:

Finally, I regard academic dishonesty as a very serious offence. Any student caught cheating will receive an F for this course and will be reported to the appropriate officer of the student's college. There will be no warnings. The following are some of the actions which I regard as academic misconduct:

1) Taking unauthorized materials into an examination.
2) Submitting work for assessment knowing it to be the work of another person.
3) Improperly obtaining prior knowledge of an examination paper and using that knowledge in the examination.
4) Failing to acknowledge the source of material in an assignment.

FINAL COMMENTS

- It is expected that all students will attend lectures, be up to date with their readings and be prepared to participate fully in class. Please ask questions in class or in office hours if you have any problems or misunderstandings. Do not wait until just before an exam to ask questions.
- The best way to learn is by doing. I recommend attempting as many exercises at the end of each chapter of the text as you can. I will also post practice problems that I will discuss in class. Students should attempt to do all practice problems.

Week	Topic	Objective	Content
Week 1	Introduction to Econometrics	Understand the basics and scope of econometrics.	- Introduction to Econometrics - Nature and Scope of Econometrics - Methodology of Econometrics - Single Equation Regression Models - Two Variables Regression Models - Review of Probability and Statistical Concepts
Week 2	Two Variables Regression Model: The Problem of Estimation	Learn estimation methods for two-variable regression models.	- OLS, ML, MM techniques for Estimation - Classical Normal Linear Regression Model (CNLRM) and assumptions of Gauss-Markov Theorem - OLS as Best Linear Unbiased Estimator (BLUE)
Week 3	Multiple Regression Analysis: The Problem of Estimation and Inferences	Understand estimation and inference in multiple regression analysis.	- OLS and the Role of Computer Statistical Software
Week 4	Relaxing the Assumptions of OLS	Explore violations of OLS assumptions and their impacts.	- Multicollinearity and Associated Problems - Heteroskedasticity and Problems in Estimations - Autocorrelations when Errors are Correlated - Model Specifications and Diagnostic Tests
Week 5-6	Simultaneous Equation Models: An Introduction and	Understand the nature and identification issues in	- Identification Issues in Simultaneous Models - Technique and Problem of Estimation

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	Nature	simultaneous equation models.	
Week 7	Introduction to Time Series Econometrics	Explore time series models and their application in econometrics.	- Deterministic and Stochastic Models
Week 8	Endogeneity and Omitted Variable Bias	Understand endogeneity and the issues caused by omitted variable bias.	- Instrumental Variable Techniques - 2SLS, 3SLS, GMM, GLS, etc.
Week 9-10	Stationarity and Unit Root Tests	Learn methods for testing stationarity and unit roots in time series data.	- Univariate Time Series Analysis - AR, MA Models - ARMA, ARIMA, SARIMA Models - Time Series Forecasting - Full Box and Jenkins Methodology
Week 11	Multivariate Analysis	Explore multivariate time series models.	- VAR, SVAR Models
Week 12-13	Cointegration and Long-Run Association Models	Study the relationships between long-run variables using cointegration models.	- Engle-Granger Approach to Cointegration - Johansson and Juselius (JJ) Methodology - Autoregressive Distributed Lags (ARDL) Method - Error Correction Models (ECM and VECM)
Week 14	Introduction to Panel Data Econometrics	Learn about panel data techniques and models.	- Fixed Effect and Random Effects Models - Hausman Test - Instrumental Variable Techniques (2SLS, 3SLS, GMM, SUR) - Diagnostic Tests of Panel Data and Associated Problems
Week 15	Static and Dynamic Panel Data Models	Understand static and dynamic models for panel data analysis.	- GMM and Panel Data Hasio (1982) - Arellano and Bond (1991) Estimators - Arellano and Bover (1995) Estimators - Blundell and Bond (1998) Estimators
Week 16	Non-Linear Regression Models	Study models involving non-linear relationships and limited dependent variables.	- Limited Dependent Variable Models - Logit, Probit Models - Ordered Logit and Multinomial Logit Models - Tobit and Negative Binomial Models
Time Permits	Panel Cointegration and Unit Roots	Additional content if time permits.	- Panel Cointegration and Unit Roots

BASIC TEXT

1) Gujarati, D.N., Basic Econometrics, McGraw Hill, Latest Edition
2) Wooldridge, J.M., Introductory Econometrics: A Modern Approach. South-Western College Publishing, Latest Edition

SUPPLEMENTARY TEXTS

1) Gujarati, D., *Essentials of Econometrics*, McGraw Hill,
2) Kennedy, P., A Guide to Econometrics, MIT Press
3) Maddala, G.S., Econometrics, McGraw Hill,
4) Arrelano, M., Panel Data Econometrics, Oxford University Press, 2002.
5) Baltagi, B.H., Econometric Analysis of Panel Data, Wiley, 2001.
6) Wooldridge, J.M., Econometric Analysis of Cross Section and Panel Data, MIT Press,
7) Enders, W. Applied Econometric Time Series. Wiley
8) Hamilton, J.D. Time Series Analysis. Princeton University Press.

COURSE TITLE: CURRENT ISSUES IN PAKISTAN ECONOMY

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COURSE CODE:	**EC-622**
CREDIT HOURS:	**03**

Course objectives

1) To apply the tools of modern economic analysis to the qualitative and quantitative study of micro and macroeconomic issues and problems faced by developing countries (Specially Pakistan) with respect to population, labor, firms, poverty, inequality and environment, in a context of increasing globalization.
2) To provide a critical and empirical based assessment of the different economic policy measures and packages put forward nationally and internationally, in order to deal with such issues and problems.

Course Material

There is no Specific book/ text available for this course. Therefore, this course will heavily rely on the publish articles, working papers, policy briefs and reports of national and international publishers and economic, policy making and financial institutions.

This course will try to generate discussions which will permit the course participants, and the instructor to discuss, in an interactive way, the course content and related questions.

COURSE OUTLINE:

Week	Topic	Objective	Content
Week 1	**Global Financial Crisis and Implications for Pakistan**	Understand the global financial crisis and its effects on Pakistan's economy.	- Overview of the Global Financial Crisis (2008) - Implications for Pakistan's financial markets - Lessons learned for Pakistan's economy and future preparedness
Week 2	**Macroeconomic Issues: Past, Present, and Prospects**	Analyze the macroeconomic trends of Pakistan and forecast future prospects.	- Overview of Pakistan's GDP growth, inflation, and external sector performance - Key challenges in the macroeconomy - Future prospects and policy recommendations
Week 3	**Poverty and Its Implications for Pakistan Economy**	Investigate the causes of poverty in Pakistan and its economic impacts.	- Poverty trends in Pakistan - Causes and consequences of poverty - Policy solutions and poverty alleviation measures in Pakistan
Week 4	**Income and Social Inequalities and Their Remedies**	Examine the role of income inequality in Pakistan's economic challenges and explore potential remedies.	- Trends in income and wealth distribution - Social inequalities (gender, rural-urban disparities) - Policies to reduce inequality and foster social inclusion
Week 5	**Unemployment: Current Scenario, Causes, and Way Forward**	Understand unemployment dynamics in Pakistan and explore strategies for reducing unemployment.	- Current unemployment rates and types (youth, urban, etc.) - Causes of unemployment: education, skills mismatch, economic stagnation - Strategies for job creation
Week 6	**Debt and Consequences for Development with Special Focus on Macroeconomic Effects**	Analyze Pakistan's national debt and its impact on economic development.	- Current debt levels and trends - External vs. domestic debt - Macroeconomic implications of high debt on growth, inflation, and

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			fiscal policy
Week 7	**Fiscal and Monetary Policy Stances**	Explore the fiscal and monetary policy tools available to Pakistan and their effectiveness.	- Overview of fiscal policy in Pakistan: taxes, subsidies, and public spending - Monetary policy: interest rates, inflation control, and central bank actions
Week 8	**Environmental Degradation and Its Effects on Human Life**	Assess the impact of environmental degradation on Pakistan's economy and society.	- Causes of environmental degradation in Pakistan - Effects on public health, agriculture, and natural resources - Environmental policies and sustainable development
Week 9	**Climate Change and Food Insecurities in Pakistan**	Investigate the impact of climate change on Pakistan's agriculture and food security.	- Climate change effects on agriculture, water resources, and livelihoods - Food insecurity issues and rising prices - Policy responses for climate adaptation
Week 10	**Energy Crisis: History, Present, and Way Forward**	Examine the causes of Pakistan's energy crisis and explore solutions.	- Historical context of Pakistan's energy crisis - Current challenges in electricity generation and distribution - Policies and projects to address energy shortages
Week 11	**Issues in Management of Demand-Oriented Economy of Pakistan**	Examine Pakistan's economic management challenges, especially in a demand-driven economy.	- Demand-side challenges in Pakistan: consumption, imports, and inflation - Balancing demand with supply-side economics - Recommendations for policy adjustments
Week 12	**Institutional Structure of Pakistan**	Analyze Pakistan's institutional framework and its impact on economic development.	- The role of public institutions in Pakistan's economy: government, judiciary, regulatory bodies - Institutional weaknesses and reforms needed
Week 13	**Governance and Its Consequences for Pakistan Economy**	Investigate the governance challenges Pakistan faces and their economic consequences.	- Governance issues: corruption, transparency, accountability - Impact on economic growth and investment climate - Policy reforms for improving governance
Week 14	**International Trade, Balance of Payment Deficit, Fiscal Deficit and Pakistan**	Analyze Pakistan's trade policies and its balance of payments and fiscal deficit challenges.	- Pakistan's trade balance and major trading partners - The issue of fiscal deficit and external borrowing - Balancing trade deficit with economic growth strategies
Week 15	**Private Investment, FDI (CPEC), and Regional Integration of Pakistan**	Explore the role of private investment and FDI in Pakistan's economic growth and its regional integration efforts.	- The role of CPEC in enhancing infrastructure and trade - FDI trends and challenges in Pakistan - Pakistan's integration with South Asia and global markets
Week 16	**Pakistan in the Global World**	Examine Pakistan's role in the global economy and its future prospects in a globalized world.	- Pakistan's global trade and diplomatic relations - Pakistan's economic positioning in global forums - Long-term strategies for integration into the global economy

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LIST OF OPTIONAL COURSES

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	EC-513	Environmental Economics	03
2.	EC-514	International Economics	03
3.	EC-515	Political Economy	03
4.	EC-516	Theories of Economic Growth	03
5.	EC-517	Population Economics	03
6.	EC-518	Industrial Economics	03
7.	EC-619	Introduction to Sustainable Development Goals (SDGs)	03
8.	EC-524	International Finance	03
9.	EC-525	Energy Economics	03
10.	EC-526	Institutional Economics	03
11.	EC-527	Natural Resource Economics	03
12.	EC-528	Health Economics	03
13.	EC-529	Managerial Economics	03
14.	EC-615	History of Economic Thought	03
15.	EC-616	Labor Economics	03
16.	EC-617	Financial Institutions & Capital Markets	03
17.	EC-618	Behavioral Economics	03
18.	EC-619	Transportation Economics	03
19.	EC-623	Poverty and Income Inequality	03
20.	EC-624	Financial Economics	03
21.	EC-625	Globalization and Economic Integration	03
22.	EC-626	Economics of Gender	03
23.	EC-627	Agri-Business Management	03
24.	EC-628	General Equilibrium & Welfare Economics	03
25.	EC-629	Game Theory	03

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COURSE TITLE: ENVIRONMENTAL ECONOMICS
COURSE CODE: ECON-513
CREDIT HOURS: 03

Environmental Economics is a branch of economics that deals with the relationship between economic activity and the environment. It seeks to understand how economic policies and actions impact natural resources, environmental quality, and public health. The field explores how the economy can work in harmony with the environment, ensuring sustainable growth while minimizing environmental degradation. The main focus is on the efficient use of natural resources, the prevention of environmental damage, and the management of waste. The study of Environmental Economics is critical for developing policies that balance economic growth and environmental sustainability.

Learning Objectives:

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

1. Understand the fundamental concepts and principles of Environmental Economics.
2. Differentiate between environmental economics and natural resource economics.
3. Analyze the relationship between economic growth and environmental protection.
4. Evaluate the impact of various economic policies on environmental quality and human life.
5. Understand the significance of sustainable development and its economic implications.
6. Use cost-benefit analysis to assess environmental policies and projects.
7. Evaluate pollution control methods and their economic feasibility.
8. Explore the environmental issues faced by developing economies, especially Pakistan.
9. Examine global environmental issues such as ozone depletion and climate change.
10. Understand the role of international trade and environmental agreements in addressing global environmental concerns.

Week	Topic	Content
Week 1	**What is Environmental Economics? Historical Framework for Environmental Protection.**	- Introduction to Environmental Economics - History of Environmental Protection - Distinction between Natural Resource Economics and Environmental Economics
Week 2	**Sustainable Development in Economics. Economy and the Environment.**	- Definition and principles of sustainable development - The role of thermodynamics in economics (1st and 2nd laws) - Fundamental balance between economy and environment
Week	**Supply and Demand Issues in**	- Cost of controlling environmental benefits -

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3	**Environmental Economics.**	Estimation of environmental costs - Willingness to Pay for environmental goods
Week 4	**Equilibrium Principle and Economic Efficiency in Environmental Economics.**	- Equilibrium Principle Technology - Marginal Cost and Supply - Economic Efficiency and Markets - External Costs and Benefits
Week 5	**Pollution and Impacts on Human Life and Environment.**	- Pollution and its effects on human health - Quality of life and environmental quality - General models of pollution control
Week 6	**Emission Reduction and Equilibrium Marginal Principle.**	- Emission Reduction Techniques - Long-run sustainability through pricing mechanisms
Week 7	**Measuring Environmental Benefits.**	- Contingent valuation method - The Travel Cost method - The Hedonic approach to measuring environmental benefits
Week 8	**Midterm Examination**	- Midterm Exam covering all the material taught so far
Week 9	**Benefit-Cost Analysis in Environmental Economics.**	- Framework of Cost-Benefit Analysis - Costing life, health, safety, and risk - Pigovian Analysis - The Chaos Theorem
Week 10	**General Considerations in Environmental Economics.**	- Environmental degradation in developing economies - Economy vs Environment issues in the context of development
Week 11	**The Pollution Haven Hypothesis.**	- Role of developed countries in environmental degradation - The relationship between economic growth and environmental quality
Week 12	**Emergence of Environmental Issues in Pakistan.**	- Industrial and urban waste management - Agricultural issues related to pesticides, salinity, and water logging - Urban environmental issues
Week 13	**Meta-Analysis of the Environment via the Kuznets Curve.**	- Public and private efforts to improve environmental quality - Impacts of environmental policies - Air pollution in Pakistan
Week 14	**Ozone Depletion and Global Warming Economics.**	- Impact of ozone depletion on the world's environment - Economics of global warming - Kyoto Protocol and international environmental agreements
Week 15	**International Trade and Environmental Policy.**	- Impact of international trade on the environment - Energy analysis, externalities, and internalities
Week 16	**Final Term Examination**	- Final Exam covering all the topics in the course

Recommended Books

1. Field, B.C and M.K Field, Environmental Economics: An Introduction (3rd Edition) 2002 New York: Mc Graw Hill
2. Barry C. Field, Environmental Economics, An Introduction, McGraw Hill (Latest Edition).
3. Chapman, D. Environmental Economics: Theory Application and Policy, Latest eds. Massachusetts: Addison- Wesley
4. Hussen A. (2003), Principles of Environmental Economics, Routledge Publishers.
5. Baker Steve, Environmental Economics, (2003) Dominant Publisher and Distributors, New Delhi edition), Tlie Free Press of Glance.

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COURSE TITLE:	**INTERNATIONAL ECONOMICS**
COURSE CODE:	**ECON-514**
CREDIT HOURS:	**03**

Course Objective:

To understand international economic relations is the aim of this course.Students acquire basic instruments for studying international trade patte rns
and changes in income distribution generated by international trade.

- Students will explain why countries trade and the gains from trade.
- Students will understand and apply specific trade models such as comparative advantage, factor endowment, and new models based on increasing returns.
- Students will apply these trade models to explain patterns of international trade in goods and services.

Topic: 1
Introduction to International Trade

The relevance of international economics, The scope of international economics, The role of
trade, The role of international monetary relations, The mercantilist thesis on trade, Three basic
questions, Absolute advantage, Comparative advantage, The case of Greek bananas, Comparative costs expressed in money, Opportunity cost.

International Equilibrium with Increasing Costs
Increasing opportunity costs, Community indifference, General equilibrium in a single economy,
A neoclassical demonstration of comparative advantage, Differences in tastes as a basis for
trade, Offer curves, International equilibrium, The terms of trade, East-West trade.

The Heckscher-Ohlin Model and Alternative Trade Theories

The basic assumptions of the Heckscher-Ohlin model, The meaning of factor intensity, Factor
abundance, The main propositions of the Heckscher-Ohlin model, The Rybczynski theorem,
The Heckscher-Ohlin theorem, The Stolper-Samuelsom theorem,

The factor-priceequalization theorem, Empirical testing of the Ricardian theory, The Leontief paradox,Explanations of the Leontief paradox, The specific factors model, Empirical challenges totraditional theories, Increasing returns, Monopolistic competition and international trade, Linder's thesis, Technological gap and product cycle

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Growth and Trade

The nature of the growth process, The sources of economic growth, Classification of technical
progress, The effects of growth on small countries, The scenario, Factor accumulation,

Technical progress, The effects of growth on large countries, The terms of trade effect,
The effect of growth on social welfare, Growth in the world economy, The Perbisch-singer
thesis.

The Theory of Tariffs

Types of tariff, The partial equilibrium analysis of the tariff, The general equilibrium analysis of
the tariff: The small country case, The effects of the tariff on a large country, Tariffs and world
welfare, The tariff as a production subsidy plus a consumption tax, Measuring the costs of
protection,

Effective protection, Empirical evidence on effective e protection, The optimal tariff,
Tariff wars in the 1930s, The theory of domestic distortions, The infant-industry argument,
Other economic arguments for protection, Non-economic arguments for protection, Candle
makers Versus The Sun

Instruments of Commercial Policy and Customs Unions

Export taxes, Ghana's export taxes on cocoa, Export subsidies, Quantitative restrictions
International cartels, OPEC, The voluntary export restraint on Japanese autos, Dumping, Other
Nontariff barriers, The Poitiers plan, Highlights of U.S. tariff history and trade liberalization,
Preferential trading arrangements: some definitions, The nature of preferential trading,

The theory of the second best: a digression, An outline of the theory of customs unions, An
illustration of trade creation and trade diversion, Consumption effects, Dynamic effects of

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customs unions, The common external tariff, Common agricultural policy, Preferential trading
among developing economies, The free trade agreement between Canada and the United States.

The Foreign Exchange Market and The Balance of Payments

The basis of the foreign exchange market, Organization of the market, Exchange rate systems,
The international character of the foreign exchange market, Exchange risk, Forward exchange,
Covered interest arbitrage, The Eurodollar market, BOP: Definitions and conventions, Balance
of payments accounting The US balance of payments, Reporting difficulties, Balance of
payments equilibrium,

Accounting balances, The US trade balance, The international investmentposition, The international investment position, The US foreign debt, The Balance of payments problem: A basic model, The basic assumptions, International equilibrium, The adjustment process, Countertrade, Temporary versus fundamental disequilibria.

The Price and Income Adjustment Mechanism

The partial equilibrium model, Schedules for imports and exports, Equilibrium in the commodity markets, The effects of devaluation, Price elasticities of demand for imports and
exports, The J-curve effect, Supply and demand for foreign exchange, Non-traded goods: A
digression, The price-specie-flow mechanism, Effective exchange rates, Real exchange rates,
The effect of dollar appreciation on US textile and apparel imports,

The income adjustment mechanism: Income determination in a closed economy, Income determination in an open economy, The foreign trade multiplier, Devaluation: absorption versus elasticities, Policy mix for internal and external balance, Foreign repercussions, Macroeconomic interdependence in the real world, Direct controls Switching policies during the great depression.

Fiscal and Monetary Policy for Internal, External Balance and Exchange Rate

The IS-LM model, Balance of payments equilibrium: The external balance schedule, The effects
of fiscal and monetary policy, The compatibility of internal and external balance, The assignment problem, Criticism of the fiscal monetary policy mix, Payments imbalances and the
supply of money,

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The monetary process, Flexible versus fixed exchange rates: The theory ofemployment with flexible exchange rates, The IS-LM model with flexible exchange rates, Exchange-rate overshooting, Stabilization policy: a digression, Exchange-rate regimes and stabilization, The policy mix of the first Reagan administration, Further arguments for and against flexible exchange rates.

Recommended Books:

1. Chacholiades, Miltiades, International Economics***,** (Latest Edition), *McGraw Hill Book*
Company. New York. London
2. Caves Richard, E., and Jones Ronald W., World Trade 'and Payments: An Introduction*****, Latest
Editions.*Lillie, Brown and Company, Boston.Toronto.*
3. Donomick Salvatore B., International Economics*****. (Latest Edition), *Prenth:e Hall.*
4. Grube! Herbert c., International Economics, (Latest Edition) Richard D. Irwin Inc., Honcwood,
lllihois.
5. PetcrHolindcr& Thomas A., Pugel., International Economics. 9lh Edition 1996.
6. Sodersten B. and Geoffry Read., (1994). International Economics, *MacMillan Press ltd*
7. The Global Competitiveness, Report, 1999, World Economic 'Forum, *Oxford University*
8. World Bank. World Development Report, 1986.*Oxford University press*

COURSE TITLE:	**POLITICAL ECONOMY**
COURSE CODE:	**ECON-515**
CREDIT HOURS:	**03**

Course Contents Introduction

Meaning, Definition and brief Introduction of basic Concepts of Political Economy. Economic and Political Integration. Policy Reform and Popular Organization, key Economic indicators. Political and Economic Institutions and their role in decision making. Linkages of Politics and Economics. Conceptualizing the Changing Global Order.

Political Economy and Laws of Economics

Law of Supply and Demand, Law of Absolute Freedom, Coase Theorem**,** Game Theory, Theory of Prisoner's Dilemma, Theory of Invisible Hand Game, Principle of Absolute Advantage, Rule of Three Theorems, Pareto's Principle, Arrow's Impossibility Theorem, Law of Diminishing Marginal Utility, Law of Equi. Marginal Utility (Law of Substitution)

Political Economy and the Critical Theorists:

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History and Class Consciousness: Georg Lukacs, Cultural Hegemony: Antonio Gramsci, Phenomenological Marxism: Herbert Marcuse, Capitalism and Schizophrenia: Gilles

Political Economy and World Order

Scottish enlightenment and the emergence of economics ,Ontological Liberalism, Deontological Liberalism, Capital accumulation, 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 Exclusion.

Regional Dynamics

Regionalism and Globalization, The Political Economy of European Integration, Regionalism in the Asia-Pacific Political Globalization and the Competition State.

Global Issues

Global Issues in Historical Perspective, Capital Mobility and Global Order, Opening up of Services Sector and its benefitries. Will there be free mobility of factors of production? Capital, labor and entrepreneurs etc. Multinationals: Objectives, Contribution and their Mobility. Emerging World Financial Order.The Group of Seven and Political Management of the Global Economy

Recommended Books

- Azhar, H. Nadeem (2002), Pakistan: The Political Economy of Lawlessness, Oxford University Press.
- Gupta, S. Dev, The Political Economy of Globalization, Kluwer Academic Publishers. (Latest eds.)

COURSE TITLE:	**THEORIES OF ECONOMIC GROWTH**
COURSE CODE:	**EC-516**
CREDIT HOURS:	**03**

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

COURSE OUTLINES:

1. **Introduction**

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- The Growth Game
- The economics of Growth: Capital, Labor and Technology
- The Historical Record: Kuznets Characteristics of Modern Economic Growth
- The Limited Value of Historical Growth Experience: Differing Initial Conditions

2. Concepts and Methods of Growth Theory and Growth Accounting

- Introduction
- The Variables and Aggregation
- Saving and Investment
- Technology and the Economy
- Rates of Growth
- Steady Growth
- A Brief History of modern Growth Theory

3. The Harrod-Domer Model of Economic Growth

- Introduction
- The Harrod Model
- The First Harrod Problem
- The Harrod Stability Condition
- Domer's Model of Growth
- Harrod and Domer: Some Comparisons

4. The Neoclassical/Solow-Swan Growth Model

- Introduction
- The Assumptions
- The Fundamental Equation of Neoclassical Economic Growth
- Fundamental Propositions of Neoclassical Economic Growth

5. Two Sector Models of Economic Growth

- Uzawa's Two Sector Growth Model
- The Fel'dman Model of Growth

6. The Cambridge Critics

- The Capital Controversy
- The Kaldor Model
- The Pasitti Model

7. Optimal Growth, Dynamic Efficiency and Welfare

- The Golden Rule of Accumulation
- Optimal Growth: Concepts and Problems
- The Keynes-Ramsey Rule

8. Theory and Models of Endogenous Growth

- Human Capital Model
- Research and Development Model

9. **Growth in the Open Economy:**

- Autarky versus openness,
- Globalization,
- The effect of openness on economic growth,
- Effects of geographical barriers,
- Openness and factor accumulation,
- Growth with capital mobility,

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- Openness and productivity,
- Trade as a form of technology,
- Openness and technological progress, and opposition to openness.

10. **Fundamentals behind Economic Growth:**

- Government: Government's role in economy,
- Governance and rule of law,
- Taxation,
- Efficiency and the size of government,
- Planning and policies,
- Corruption and Kleptocracy,
- Democracy and economic growth,
- Causation from government quality to income.

TEACHING METHODOLOGY

 Lectures In class activities Term paper (optional)

TEXT AND REFERENCE BOOKS:

- Jones, Hywel: An Introduction to Modern Theories of Economic Growth, Van Nostrand Reinhold (UK) Co. Ltd. (Southampton)
- Romer, D. (2006): Advanced Macroeconomics, McGraw-Hill (Boston)
- Robert J. Barro and Xavier Sala-i-Martin: Economic Growth, The MIT Press Cambridge, Massachusetts London, England.

COURSE TITLE:	**POPULATION ECONOMICS**
COURSE CODE:	**EC-517**
CREDIT HOURS:	**03**

COURSE DESCRIPTION: This course familiarizes the students with the basic concepts of demography. The course aims to establish initial understanding of the important demographic issues for instance, demographic processes, demographics theories, population characteristics, methods of demographic analysis, and the demographic transitions. In the latter part of the course the focus will be on the issues such as urbanization, family change, population aging, and health related issues.

COURSE OBJECTIVES:

1. To provide the initial exposure of the important demographic issues.
2. To enable the students to establish the linkages between economic and demographic factors.

COURSE LEARNING OUTCOMES:

Upon Successful Completion, the Students Should be able to:

 UNDERSTAND the importance of demography

 IDENTIFY the factors related to population policies

 Acquire KNOWLEDGE of the population dynamics of Pakistan**.**

COURSE CONTENTS:

1. Introduction

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

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2. Theories of Population

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

3. Fertility

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

4. Mortality

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

5. Migration

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

6. Population Composition: Age & Sex Composition

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

1. Population Growth & Ageing

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

8. Urbanization

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

9. Population Policy

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

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RECOMMENDED BOOKS:

1.Weeks J. R, Population. An Introduction to Concepts and Issues(latest edition). Wadsworth Publishing Company, USA.

2.Poston D. L.& L. F. Bouvier. Population and Society: An Introduction to Demography, (latest edition), Cambridge University Press, UK.

COURSE TITLE:	**INDUSTRIAL ECONOMICS**
COURSE CODE:	**EC-518**
CREDIT HOURS:	**03**

Objectives

The course analyzes the problems of the real economy that cannot be described within the framework of a classical economic theory that is taught by traditional micro- and macroeconomics. This course will cover all the three main fields of industrial organization theory: the theory of a firm, the theory of imperfect competition, and the theory of economic regulation. The students are presumed to be familiar with the standard courses in micro- and macroeconomics at the graduate level.

Course Contents

Theory of a firm

What is the firm and why is it organized? A firm as an alternative to a market. Transaction costs theory explaining appearance of firms. Production scale, specialization level and advantages of firms as a means of production. Hierarchical firm structure.

Consumer Surplus and Public Welfare

Estimation of public welfare within the framework of partial equilibrium analysis. Quasilinear utility function and measure of public welfare. Compensated and equivalent variations. Public welfare and Hicksian and Marshallian demand functions.

Economic Theory of Bundling

Bundling as a marketing tactics. Price discrimination and bundling. Heterogeneous consumers. Pure components strategy, pure bundling strategy, and mixed bundling strategy. Superiority of mixed bundling relative to pure bundling. Conditions for mixed bundling strategy to be dominant over pure components strategy. Independent distribution of reservation prices. Homogeneous consumers. Commodity bundling and consumer surplus.

Mergers and Acquisitions.

Horizontal Mergers and Acquisitions

Types of mergers and acquisitions: horizontal, vertical, conglomerates. Examples of mergers and acquisitions within the last decade. Mergers of firms with identical production costs. Condition of a merger profitability. Mergers of firms with differing production costs. Reaction of a firm to a change in output by all other firms on the same market. Condition of industry output increase, resulting from a merger.

Horizontal mergers and public welfare. Herfindal-Hirshman index as a measure of public welfare. Condition under which horizontal merger results in higher public welfare.

Vertical Mergers

Effect of a vertical merger on output of final and intermediate products. Vertical mergers and market foreclosure. Vertical mergers and profits of integrated and

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unintegrated firms.

Product Differentiation Location Models

Linear city, linear transportation costs. Quadratic transportation costs. Stability of equilibrium states. Circular city. Welfare implications.

Differentiated Goods, Increasing Returns to Scale, and Monopolistic Competition

Markets for differentiated goods. The problems solved by consumers and producers. Market equilibrium under free entry conditions. Effects of fixed costs and market size on product diversity and output.

Industrial Agglomeration

Phenomenon of industrial agglomeration. Increasing returns to scale as a driving force of agglomeration. External and internal mechanisms of increasing returns to scale. The role of transportation costs. A simple model of industrial agglomeration: two regions, two production factors (perfectly mobile workers and immobile farmers). Competition and market size – the main factors affecting the process of industrial agglomeration. Effects of transportation costs, fixed costs, a share of immobile factor on industrial agglomeration. Stability of distributed and agglomerated equilibria. Multiple equilibria and hysteresis.

Economics of Innovations

Model of the innovation process. Patent race. Market structure and innovation efforts. Incentives for innovations. Socially optimal and market investments into R&D. Patent life.

Imperfect Competition and Macroeconomics (1 lecture).

Theories of business cycles. Increasing returns to scale and stability of economic equilibrium. Price rigidity as a source of business cycles. Explanations of price rigidities: kinked demand curve, menu costs. Market monopolization and price rigidity. Small menu costs and large business cycles during economic booms and busts. Externalities, corrective taxes, and market structure. Possibility of a negative effect of Pigou tax on public welfare under monopoly.

Theory of Regulation

Public costs of monopoly. Subadditivity of cost function – a necessary and sufficient condition for a natural monopoly. Economy of scale, concavity of a cost function and subadditivity. Stability of a natural monopoly.

History of regulation after World War II. When should natural monopolies be regulated? Demsetz competition for a market. Contestability of a market. Deadweight losses, sunk costs and regulation. Regulation under complete information. Price discrimination and nonlinear tariffs as a means of increasing efficiency of a regulated monopoly. Peak-load pricing. Regulating monopoly under asymmetric information. Exogenous mechanisms of regulation. Averch-Johnson model. Endogenous mechanisms of regulation. The delegation and revelation approaches.

Analysis of Particular Industries and Enterprises. Airlines

Effects of deregulating air companies. “Hub and Spokes” system and its efficiency.

Theatres and restaurants

Why in developed market economies there are queues in theatres, restaurants, etc.? Network externalities in services consumption and no monotonicity of demand function. Instability of equilibrium, corresponding to profit maximization, and

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limitedness of prices and supply of services.

Economics of Show Business

Why relatively small number of people in show business, sports, book publishing, etc. earn a lot of money and dominate on markets? Effect of imperfect substitution: lesser talent is a poor substitute of larger talent. Dependence of demand function on quality. Increasing returns to scale in show business production. Demand and supply structure. Market equilibrium. Convexity of revenue function, depending on talent. Continuous distribution of performers on talent, and rent dissipation. Outstanding performer and rent value.

Recommended Books

- Adams W.J., and J.L. Yellen, 1976, "Commodity Bundling and the Burden of Monopoly", *Quarterly Journal of Economics*, vol. XC, 475-498.
- Averch H., and L.L. Johnson, 1962, Behavior of the Firm under Regulatory Constraint, *American Economic Review*, vol. 52, 1052-1069.
- Baron D., 1989, *Design of Regulatory Mechanisms and Institutions*, in R. Schmalensee and R.D. Willig eds.: The Handbook of Industrial Organization, Elsevier North-Holland.

COURSE TITLE:	**INTERNATIONAL FINANCE**
COURSE CODE:	**EC-524**
CREDIT HOURS:	**03**

Objectives:

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

Course Outline:

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

Recommended Books:

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

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COURSE TITLE:	**ENERGY ECONOMICS**
COURSE CODE:	**EC-525**
CREDIT HOURS:	**03**

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

Course Outline:

Overview and Fundamental Concepts:

Energy in the Economy; Global Energy Problems and Issues, Fundamental Concepts: Energy, Power;

Measuring energy:

units and conversion factors, Laws of Thermodynamics, 1st Law and Entropy law, Input and output energy, energy efficiency, Energy conversions (technologies), Global Energy system sustainability issues, Energy markets and energy prices; competitive market valuation and social valuation,

Market Failures:

Market power (monopoly, oligopoly, and cartels), Externalities, Public goods and common property resources. Oil Resources and Economic Issues: Discounted cash flow analysis, reserve and resources, resource substation, forecasting prices and speculation, Natural resource (oil) demand and supply, OPEC.

Overview of Energy Economics and Global Energy Sustainability:

Primary energy supply, secondary energy and energy end use demand/consumption, Energy, economic activity, and growth: energy intensity, global energy use forecasts, Energy conversion, energy transportation and/or transmission, and clean energy use, Conditions for a sustainable global energy system, climate change and clean energy Clean Energy Supply from Non-Conventional,

Alternative and Renewable sources:

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

Fuel cells Energy Supply from Non-Renewable Fossil Fuel Resources:

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

Energy Conversion and Supply by Electric Utility Industries:

Electric Power demand and load duration vs. Electric energy consumption, time-of-use, Electricity production technologies and electricity production cost trade-offs, Thermal, hydro, nuclear and renewable production and transmission of electricity, Electricity pricing issues, regulation and deregulation issues, Nuclear energy issues and prospects. Sustainable Energy Policy Jaccard's Sustainable Energy System in

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2100, Energy Policy of Pakistan, Sustainable energy options and criteria for comparison, Sustainable Energy Policy Alternatives and Climate Change, International Policy Initiatives.

Textbook:

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

COURSE TITLE:	**INSTITUTIONAL ECONOMICS**
COURSE CODE:	**EC-526**
CREDIT HOURS:	**03**

Objectives: A course in "Institutional economics" accomplishes a series of courses that constitute the basic training for economists. Before studying institutional economics students should master not only the fundamentals of general economic theory but have knowledge of the historical courses and humanities as well. Pre-Requisite: It is assumed that the students should be familiar with the following courses: Microeconomics and Macroeconomics, game theory, industrial organization, economic history and history of economic thought.

1. **Introduction to institutional analysis;**

The concept of institution: attempts at definition. Institutions and organizations. Functions of social institutions. Interaction situations and the types of norms: prisoners' dilemma-type situation; co-ordination situation; inequality situation. Enforcement characteristics. Institutional structure of a society. Formal and informal institutions. Sanctions for disobeying norms (self- enforcing sanctions, guilt, shame, informational sanctions, bilateral costly sanctions, multilateral costly sanctions). Conditions of norms' effectiveness. Interaction of formal and informal institutions. The limits of imitations of institutions from best-performing countries. The problems of their enforceability. The New Institutional Economics and modern institutionalism. Old institutional economics.

2. **Transaction costs:**

The concept of transaction. Market and intrafirm transactions. Transaction costs as friction in the economy. Transaction costs and transformation costs. Interdependency between transaction costs and transformation costs. Types of market transaction costs and means of transaction costs minimization (search and information costs; measurement costs; bargaining and decision costs; supervision and enforcement costs). Comparative advantages and shortcomings of the legal enforcement mechanism. Reputation as a contract enforcement device. Ideal model of "perfect reputation". Shortcomings of the reputation as a contract enforcement mechanism. Reputation and the "free rider problem". Reputations aided by institutions. Contract enforcement in contemporary Russia.

3. **The definition of property rights.**

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Property rights in different legal traditions (common law and civil law traditions). The property rights approach: some basic concepts. Specification of property rights, the bundle of rights, partitioning of property rights, attenuation of property rights. Assigning of property rights: the internalization of externalities. The Coase Theorem. Critic of Cease (dynamic effects of alternative legal rules, wealth effect, distributional effects, strategic behavior and the problem of holding-out, endowment effect, sociological critic, unrealistic assumption about zero transaction costs). Alternative property rights regimes. Common property (open access) and the tragedy of the commons. Exclusive property rights and the conditions for their emergence. The first economic revolution. Communal property. Optimal group size. Private property. Moral and economic aspects of private property. Public property. The emergence of property rights. The optimistic theory of the emergence of property rights (naive model). The interest-group theory of property rights. The costs of collective action. The theory of rent-seeking. Interest-groups and rent-seeking in the Russian economy.

4. Contracts: The definition of a contract.

Legal and economic approach to contracts. Freedom of contract. Bounded rationality and contractual incompleteness. Asymmetric information (hidden characteristics, hidden information/ hidden action, hidden intentions) and opportunistic behavior. Adverse selection and the closing of markets. Signaling, screening and self-selection. Asset plasticity and moral hazard. Principal-agent problem and agency costs. A simple principle-agent experiment in the classroom. Controlling and preventing moral hazard (controlling the agent, incentive contracts, bonding, do-it-yourself method). Case study: crisis of the savings and loan associations in America as an example of moral hazard in financial markets. Attributes of transactions and the choice of a contract. Asset specificity, types of specific assets. Synergy effects, quasi-rents appropriation and hold-up problem. Classification of contracts (classical, neoclassical and relational contracting). Discrete alternative governance structures: market, hybrids and hierarchy. Self-enforcing agreements (Telser) and hostages (Williamson). Hybrids: specific assets and their safeguards. Institutional environment and its role in the choice of contract. GM and Toyota: different models for solving the problem of safeguards for specific investments. The role of trust. Economic approach to trust. Kreps: the trust game. Types of trust (contractual trust, competence trust and good will trust). Explaining the internal structure of formal organizations: transaction costs approach.

5. The new institutional theory of the firm:

Neoclassical theory of the firm. Explanations of the firm in the new institutional theory (F. Knight, R. Coase, A. Alchian and H. Demsetz, O. Williamson, O. Hart). The market and the firm. Comparative analyses of the alternative coordination forms. Internal market and influence costs. The boundaries of the firm. Ownership structure of the firm. A theory of the owner-monitor. Competing forms of economic organization, relative advantages of alternative structures (proprietorships, partnerships, open corporation, regulated firms, public enterprises, nonprofit organizations, labor-managed firms). Separation of ownership and control in the open corporation. Opportunistic behavior of the managers and corporate control. Outsider and insider corporate governance. Privatization in Russia and other transition economies: how to control the managers.

6. The new institutional theory of the state:

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Social mechanisms for constraining open access. Contractual theories of the state (Locke, Rousseau), Hobbes predatory theory of the state. North's model of the state. The regulatory role of the state in the Russian economy.

7. The theory of institutional change:

Stability of institutions and institutional change. The concept of institutional equilibrium. The main sources of institutional change. Centralized and spontaneous institutional change. The role of the state in the process of institutional change. The problem of compensation of the disadvantaged groups. Theories of selection of efficient institutions in the process of competition (Alchian, Friedman). Institutional change and path dependence. Forms of path-dependence (weak form, semi-strong and strong forms). Institutional change in contemporary Russia.

Recommended Books:

1. Elinor Ostrom, "Understanding Institutional Diversity" latest Edition, Princeton University Press
2. Marc Tool, "Institutional Economics Theory, Method, Policy" Latest Edition
3. Akerlof G. A. (1984) The Markets for "Lemons": Quality Uncertainty and the Market Mechanism" 84 Quarterly Journal of Economics, pp. 488-500
4. Milgrom P., Roberts (1992) J. Economics, Organization and Management-Prentice-Hall Int., 13. North D. (1990) Institutions, Institutional Change and Economic Performance. Cambridge University Press,

COURSE TITLE:	**NATURAL RESOURCE ECONOMICS**
COURSE CODE:	**EC-527**
CREDIT HOURS:	**03**

COURSE DESCRIPTION

This course explores the use of natural resources from an economic perspective. The course presents the theories of efficient utilization of natural resources and discusses issues related to current practices of use of natural resources. The course introduces students to the principles, reasoning, and techniques required to solve allocation problems under different social objectives. This subject also discusses issues of sustainability, conservation and preservation of natural resources.

COURSE OBJECTIVES

1. To understand economics and management of natural resources
2. To acquaint students with the various categories of natural resources and theeconomic theory associated with their optimal use.

COURSE LEARNING OUTCOMES

Upon Successful Completion, the Students Should be able to:

1. **RECOGNIZE** and **EXPLAIN** the key categories of natural resources;
2. **UNDERSTAND** the optimal use/depletion of natural resources

COURSE CONTENTS

1. Introduction

- An introduction to natural resource economics
- Economy–environment interdependence
- Natural resource economics: overview

2. Reasons of Studying Natural Resource Economics

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- Property rights, open access resources, tragedy of the commons
- Market failures, externalities and environmental problems
- Dynamic decisions and irreversible consequences
- Fundamental issues in the economic approach to natural resource economics

3. Imperfect Competition in Natural Resource Markets

- Review of basic concepts, perfect competition and imperfectcompetition
- Economic approach and Economic Efficiency
- Social decision making and socially efficient level
- Economic Methods: Strengths and Weaknesses

4. Natural Resources: Types, Classification and Scarcity

- Classifications of Natural Resources, renewable and nonrenewable
- Measuring resource scarcity
- Natural Resource use and conflicts

5. Fundamentals of Renewable Resources

- Open-access resources and steady-state harvests
- Socially efficient resource harvesting
- The dynamics of renewable resource harvesting

6. Economics of Non-Renewable Resources

- Resource taxonomy (current reserves, potential reserves, resourceendowment)
- Price and size of reserves, theory of efficient extraction:
- Hoteling rule, mathematical and graphical explanations

7. Optimal Allocation of Scare Natural Resources

- The efficient and optimal use of natural resources
- Resource scarcity and economic growth
- The social welfare function and an optimal allocation of naturalresources
- Economic efficiency, allocation of resources and equity

8. Economic Valuation and Evaluation

- Concepts and measurement of value for decision making
- Direct method of valuation and indirect method of valuation
- Contributions of nature and Non-market valuation methods
- Hedonic models

9. Sustainability, Conservation and Preservation

- The origins of the sustainability problem
- The pursuit of sustainable development
- Sustainability, Conservation, and Preservation

10. Population Growth and Natural Resources

- Impact of population growth on economic development
- Poverty, population and natural Resources
- Poverty, inequality and natural Resources

11. Input-Output Analysis, Technology and Environment

- Origin, derivation and usefulness of the model

12. Computable General Equilibrium Models and Natural ResourcesAccounting

TEXT AND REFERENCE BOOKS:

7. Tietenberg, T.H,and Lewis, L. (2012). *Environmental and Natural*

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Resource Economics, (9th Edition), Pearson Addison Wesley.
8. Perman,R., Yue M., Common M.,Maddison,D., and Mcgilvray, J. (2011). *Natural Resource and Environmental Economics*, (4th Edition), Pearson Addison Wesley.
9. Nick Hanley, N., Jason, F. S., and White, B. *Environmental Economics in Theory and Practice*, (2nd edition), Palgrave Macmillan.

COURSE TITLE:	**HEALTH ECONOMICS**
COURSE CODE:	**EC-528**
CREDIT HOURS:	**03**

Course Introduction:
This is a course on the economics of health and health care, with an emphasis on the Pakistan's health care system. The course examines the demand for health and health care, the nature of health care as a commodity and the behavior and organization of health care providers, health care financing and insurance, health care funding and payment of providers, innovation in health care (pharmaceuticals) and methods for evaluating health care programs and interventions, and UHC Particular attention will be given to current public policy issues for which economic analysis has potential to contribute constructively.

Learning Outcomes:
The students should be able to:
1. Understand the concept of health care systems
2. Understand the supply and demand mechanisms of health systems
3. Role of innovations in today's health system

Course Contents:
1. Introduction
- What is health economics? Normative issues in health economics

2. Demand for HealthCare
- The health capital model and the demand for health (includes demand for bads such as smoking or junk food, and addictions as seen by economists), Demand for health care as a derived demand. Price and in- come elasticities of demand for health care (the Rand Health Insurance Experiment).

3. Supply of health care
- Health care professionals and institutions, their objectives and the environment in which they work (economic perspectives). Physician agency. What can we learn from geographic variations in health care utilization? What do we know about supplier- induced demand?

4. Third-party payers inhealth care
- The demand for health insurance and welfare consequences of moral hazard, Competition on the health insurance market and adverse selection as a market failure. Reclassification risk (also known as premium risk) in competitive markets as another potential source of market failure, Paying health care providers (funding of health care) and insurers as statistical buyers.

5. Innovation and cost-control in health care
- The supply of R&D in health (special emphasis on pharma- ceuticals), Evaluating innovation (methods of evaluation and technology assessment in health care),

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How much innovation do we want? The Value of Life approach and equity considerations.

Teaching Methodology:

- To deliver lectures on topics included in course outline
- To require each student to solve independent assignments on topics included in the course.Evaluation Criteria:

Recommended Books:

1. Jeremiah Hurley, 2010, Health Economics,
2. Sherman Folland, Allen Goodman and Miron Stano, The Economics of Health andHealth Care, several editions.
3. Hurley's textbook Health Economics
4. Feldstein, Paul J. 2011. Health Care Economics, 7th Edition. Cengage Learning.
5. Henderson, James W. 2014. Health Economics and Policy, 6th Edition. Cengage Learning.
6. Feldstein, Paul J. 2011. Health Policy Issues: An Economic Perspective, 5th Edition.
7. Bodenheimer, Thomas, and Kevin Grumbach. 2012. Understanding Health Policy:

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COURSE TITLE:	**MANAGERIAL ECONOMICS**
COURSE CODE:	**EC-529**
CREDIT HOURS:	**03**

Course Contents

Nature, Scope and Overview of Managerial Economics

The Nature and Scope of Managerial Economics. The Managerial decision making process. Theory of the firm. Profit maximization, Cost Minimization. Economic optimization. Economic relations of variables. The Incremental concept in Economic Analysis. Demand, Supply and Equilibrium.

Demand Analysis: Estimation and Forecasting

The Basis for Demand. The Market Demand function. Demand sensitivity analysis: Elasticity, Price Elasticity of Demand with Managerial
applications. Income Elasticity of Demand with Managerial applications. Application of Regression Analysis: Demand estimation. Demand forecasting.

Production and Cost Analysis

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

Decision Making Under Risk and Uncertainty

Introduction. Risk Analysis of Decision Alternatives. Adjustment for Risk in Decision Making. The Expected Value Criterion. The Standard Deviation Criterion. The Coefficient of Variation Criterion. The Certainty Equivalent Criterion. The Maximax Criterion, Maxim in Criterion and Minimax regret criterion. The Decision Tree and Joint Probabilities. Optimal decision Strategy. Limit Pricing and Preventing entry.

Pricing Analysis and Decisions

A Review of Market Structures and Basic Pricing Models. Perfect Competition. Monopoly. Monopolistic Competition. Oligopoly. Selected Pricing Models. Marginality Pricing. Mark up pricing. New Product Pricing. Oligopoly Model. Contestable Markets. Pricing Strategies for Firms and Market Power. Monopolistic Competition. Price Discrimination, Monopsony and Price Product.

Managerial Theories and Models of the Firm

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

Public Sector Production and Pricing of Goods

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

Capital Budgeting and Investment

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

Recommended Books

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- Douglas, E. J., Managerial Economics, Prentice Hall, (1990).
- Hirschey, M. Managerial Economics, (10th edition) U.S.A. Thomson South-Western, (2003).
- Hirschey, M. and J.L. Pappas; Fundamentals of Managerial Economics, Dryden Press, (1998).
- Kent P, and P Young., Managerial Economics: Economic Tools for Today's Decision Makers., (4th Edition) Pearson (2003).
- Keat, P., and P., Young, Managerial Economics, MacMillan, (1992).
- Koutsoyiannis, A., Modern Microeconomics, MacMillan, (1979).
- Mansfield E., (1998), Manageral Economics, Theory, Application and Cases. W. W. Nortion& co.
- Michael R., Baye (2000) Managerial Economics and Business Strategy, McGraw Hills.
- Pappas, James, Brigham Eugene F and Hirschey Mark., (latest edition), Managerial Economics, Dryden Press, Chicago.
- Salvatore, D. Managerial Economics, McGraw Hill, (2001).
- Thomas, Maurice., Managerial Economics: In a Global Economy (7th Edition) New York: McGraw Hills, (2002).

COURSE TITLE:	**HISTORY OF ECONOMIC THOUGHT**
COURSE CODE:	**ECON-615**
CREDIT HOURS:	**03**

Objectives

This course evaluates the development of economic thought and philosophy through the eyes of Ancient, Medieval, Greek, Romans and European traditions before exploring economic philosophical thoughts in the context of the 20th Century. The course is philosophical in content and international in perspective allowing students to develop a critical understanding of the influence of evolving economic thought on contemporary global economics.

Course Contents

Introduction

- Importance of Economic History and Philosophy
- Philosophical Approaches to Study Economics.
- Ancient Indian Economic Philosophy.
- Greek Economic Philosophy.
- The Economic Philosophy of Islam.

Mercantilists and the Physiocrats

The Contributions of Mercantilists and the Physiocrats. A doctrine of economic process, transition to liberalization: Wage theory to natural price, the task of government. Overtime, Changing Role of Government.

Classical School and its Economic Philosophy

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- Hume and Mill: Theory of Utilitarianism
- Adam Smith: Theory of Moral Sentiment, The framework for classical economics.
- Malthus and Ricardo :Theory of Population growth, The Labor Theory of Value. Bullin Debate. Ricardo's Monetary Thought. The Theory of Rent. Profit Concepts of Colonization.

Socialism and its Economic Philosophy

- Socialism before Marx.English Socialists.
- Anarchism.
- Karl Marx's Contributions.
- The Class Struggle.
- Criticism on Marx.Challenges to Capitalism.
- German Historical School.
- Weber's contributions.

Neo-Classical Economics

- Alfred Marshall; Framework of Neo Classical Economics
- The Marginalist School, Neo-Classical Economics. Jeons Inference.
- The concept of Welfare State.Chamberlin and Robinson.
- Australian School of thought.Veber and Galberith's Contribution.
- Pre 1914 variations to Neo-Classical Themes; Post script to NeoClassical Economics

Keynesian and Post Keynesian Economic Philosophy

The Keynesian and Post Keynesian School, The Great Depression: Economic Policies and Capitalist Instability Between the World Wars. The 20th Century Paradigms. The Growth of International Economy.The Rise and fall of Post World War II.The American economic history and Lessons.

i) The Emergence of Modern Economic Growth, Building Blocks, Industrial Revolution, Structuralist and Dependency School of thought; Sunkel, Amir Samer, Frank and others' contribution. Technological Change and Impacts.

   The Crisis of the 1970's and International Responses.Failure of Trickle down effects.Rational Expectation Revolution.Basic Needs Approach and welfare.Emergence Famine and Poverty.

ii) Modern Economic Thought. Comparison of Post Keynesian and Monetarist Thoughts. Supply side economics. Globalization, Liberalization and New Weave of Economic Growth and Welfare. New Growth Theory. Convergence and Divergence Debate. Future of Economics, Quality and International Trade and emergence of markets, New Regionalism, New directions of research. Environment and sustainable growth.

Recommended Books

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- A History of Economic Ideas, (1959), Robert Lekachman, McGraw Hill Company.
- Economic Theory in Retrospect, Blaug, (1978), Cambridge University Press.
- Frank A. G., (1998), Global Economy in the Asian Age, Univ., of California Press.
- Henery John D., The Future of Economics, (1992), Black Wall Publishers.
- Marx k., and Engles F., The Communist Manifesto, Peoples Publishing House, Moscow, latest edition.
- Rima Ingrid, Development of Economic Analysis, Routledge Publishers (Latest ed.).
- Spechler, Martin C., (1990), Perspective in Economic Thought, McGraw Hills.
- The Main Current in Modern Economics (latest edition), The Free Press of Glancer.

COURSE TITLE:	**LABOR ECONOMICS**
COURSE CODE:	**ECON-616**
CREDIT HOURS:	**03**

COURSE DESCRIPTION

This course is aiming to provide an exposure of the functioning of labour market. This course is expected to impart the skills essentially needed to understand the topics like labour demand and supply, wage determination, labor migration, unemployment, and the role of labor unions.

COURSE OBJECTIVES:

1. To understand the dynamics of labour market.
2. To understand the employment decisions initiated by the firm.
3. To understant the mechanism of wage determination.
4. To analyze the causes of unemployment for potential policy interventions.

COURSE LEARNING OUTCOMES:

- Upon Successful Completion, the studentmust be able to:
- UNDERSTAND that how firms make decisions about their need for workers, how workers make labour supply decisions and how wages and other benefits are determined
- IDENTIFY role of migration and labour unions Acquire
- KNOWLEDGE of relevant public policies, such as minimum wage.

COURSE CONTENTS

1. **Introduction**
   - Introduction of the labour market
   - Important actors of the labour market
   - Importance of the understanding of the labour market.
2. **Labour Supply**
   - Defining and measuring the labour force
   - Factors behind labour supply

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- Understanding the worker's preferences
- Derivation of labour supply curve
- Measuring the elasticity of labour supply

3. **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
4. **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
    -
5. **Compensating Wage Differentials**
    - The Market for risky jobs
    - Hedonic wage estimation
    - Safety and health regulations
    - Compensating wage differentials
    - Health insurance and labor market
6. **Human Capital**
    - Education and labour market
    - Present value of education
    - The schooling model
    - Education and earning
    - On-job trainings
7. **The Wage Structure**
    - The earnings distribution
    - Explanation of wage inequality
    - Family migration
    - The job match
    - Job turnover and retention policies
8. **Labour Market Discrimination**
    - Race and gender based discrimination in labor market
    - Estimation of the coefficient for discrimination
    - Employer discrimination
    - Employee discrimination
    - Discrimination among other groups
9. **Labour Unions and Collective Barganing**
    - Labour union: background and facts
    - Determinants of union membership
    - Unions and monopoly
    - Efficient bargaining

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- Strikes
- Wage and non-wage effects of union
- Unemploymet
- Types of unemployment
- Mismatching and unemployment
- Unemployment compensation
- Intervention in labour markets and unemployment

TEACHING METHODOLOGY:

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

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TEXT AND REFERENCE BOOKS:

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

COURSE TITLE:	**BEHAVIORAL ECONOMICS**
COURSE CODE:	**EC-618**
CREDIT HOURS:	**03**

COURSE DESCRIPTION:

Behavioral economics extends traditional economics by incorporating insights into human behavior derived from psychology, sociology and neuroscience. The behavioral patterns studied in this subject include judgment biases, framing effect,loss aversion, anchoring, preference reversals, fairness, negative reciprocity and social preferences. Applications of behavioral economics to both microeconomic and macroeconomic topics will be considered, such as self-control and saving, self-serving bias and bargaining impasse, wage rigidity and involuntary unemployment and the equity premium puzzle. Research techniques emphasized in behavioral economics, such as experimental methods, will be discussed.

COURSE OBJECTIVES:

To learn how behavioral economics extends traditional economics by incorporating insights into human behavior derived from psychology, sociology and neuroscience.

COURSE LEARNING OUTCOMES:

By studying this subject student should be able to:

- EXPLAIN the behavioral patterns uncovered in behavioral economics;
- explain some of the techniques used by behavioral economics to

CREATE KNOWLEDGE;

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- EVALUATE the contribution of behavioral economics to economicknowledge.
- SYNTHESIZE and contrast some of the recently created knowledge in behavioral economics with traditional economics;

COURSE CONTENTS:

1. Introduction
2. The endowment effect
3. Prospect theory, loss aversion and mental accounting
4. The equity premium puzzle
5. Choosing the reference standard
6. Visceral influences
7. Neuro economics
8. Present biases
9. Inequity aversion
10. Self-serving bias and bargaining impasse
11. Identity
12. Reciprocity and wage rigidity
13. Happiness
14. Incentives, punishment and behavior
15. Conclusion

TEXT AND REFERENCE BOOKS:

- Thaler, R.H., and Sunstein, C.R. *Improving decision about Health, Wealth and Happiness,* Yale University Press, New Haven and London.
- Colin Camerer , *Behavioral Game Theory*, Princeton University Press. (2003)

COURSE TITLE:	**TRANSPORTATION ECONOMICS**
COURSE CODE:	**EC-619**
CREDIT HOURS:	**03**

COURSE DESCRIPTION:

This module provides a critical awareness of how economics can be used to overcomecurrent problems in the transport sector, such as congestion, inadequate service (interms of both quantity and quality) and high prices. It will give you a systematic and comprehensive understanding of the key concepts in transport economics and the graphical and numerical analytical techniques used by transport economists.

COURSE OBJECTIVES:

Objectives of the course are:

- To provide a critical awareness of the principles of transport economics and how these principles are applied in practice in transport policy.
- To enhance the ability to analyze service levels to users, operating costs based on environmental and social aspects.
- To make a conclusion based on theories and practices, and selecting the best solution regarding transportation.

COURSE LEARNING OUTCOMES:

Upon Successful Completion, the Students Should be able to:

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EVALUATE
the economic impacts of transport schemes using cost benefitanalysis and alternative methods
ASSESS
issues relating to transport funding, road pricing and the pricing ofpublic transport.
PREPARE AND PRESENT
a critique of the key economic issues in transportpolicy.
IDENTIFY
the key issues in transport economics and economic appraisal.
COURSE CONTENTS:
1. Introduction to transport economics
2. Mathematics for transport economists
3. Demand for transport: Theory and Practice
4. Supply of Transport: Theory and Practice
5. Pricing of Transport: Theory and Practice
6. Transport Appraisal and Evaluation: Theory
7. Cost benefit analysis and transport investment in developed countries
8. Cost benefit analysis and transport investment in developing countries
9. Road user charging and public transport pricing
10. Transport and the location of economic activity
11. Transport and the level of economic activity

TEXT AND REFERENCE BOOKS:

1. Mallard, G. and Glaister, S (2008). Transport Economics. Theory, Applicationand Policy.
2. Cowie, J. (2010). The Economics of Transport: A theoretical and applied perspective.
3. Nash, C. (Ed) (2015). Handbook of Research Methods and Applications in Transport Economics and Policy.

COURSE TITLE:	**POVERTY AND INCOME INEQUALITY**
COURSE CODE:	**EC-623**
CREDIT HOURS:	**03**

COURSE DESCRIPTION:
Poverty and income inequality has always been issues of concern for economists. Their empirical analysis is of great significance. This course describes the technical issues related with the empirical analysis of poverty and income inequality.
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 LEARNING OUTCOMES:
Upon Successful Completion, the Students Should be able to:

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1. UNDERSTAND the importance of income distribution in economic growth
2. ANALYSE and INTERPRET the poverty and inequality estimates
3. IDENTIFY sources and causes of poverty and inequality
4. CONDUCT independent research on 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

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- International comparison

TEXT AND REFERENCE BOOKS:

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

COURSE TITLE:	**FINANCIAL ECONOMICS**
COURSE CODE:	**EC-624**
CREDIT HOURS:	**03**

COURSE DESCRIPTION:

This course is designed to provide an overview of financial economics as a specialized field of economics. It is a foundation course for studying courses line international finance. It includes discussion of the efficient markets theory, and presents an overview of quantitative methods in finance. Further the course coversthe new developments in financial economics.

COURSE OBJECTIVES:

1. To introduce the fundamentals of financial economics
2. To understand financial system
3. To explain the financial decision-making process, essential for understanding various financial contracts, such as stocks, bonds, and derivatives contracts

COURSE LEARNING OUTCOMES:

At the end of the course, students should be able to

1. UNDERSTAND the primary functions of the Financial System
2. RECOGNIZE the structure of the Financial Markets
3. IDENTIFY the Financial Market Instruments and understand the causes of financial instability
4. CLARIFY the role of central banking

COURSE CONTENTS:

1. An Introduction to Financial Economics
2. Risk and Risk Aversion
3. The Capital Allocation Decision
4. Optimal Risky Portfolios
5. The Capital Asset Pricing Model and some of its limitations
6. **Multi-Factor Models (Arbitrage Pricing Theory)**

- Factor model
- Arbitrage opportunity
- APT
- Fama-French three factor model

7. **Efficient Markets Hypothesis**

- Random walk
- Autoregressive (AR) process
- Unit root process
- Predictability

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8. **Rise of Behavioral Finance**
9. Bond Yields and Interest Rate Risk
10. The Term Structure of Interest Rates
11. Minsky's Financial Instability Hypothesis and Financial Crises

TEXT AND REFERENCE BOOKS:

10. Fredric S. Mishkin, *The Economics of Money, Banking and Financial Markets*, (latest edition), The Pearson Series in Economics.
11. Stephen F. LeRoy and Jan Werner, *Principles of Financial Economics*,(latest edition), Cambridge University Press

COURSE TITLE:	**GLOBALIZATION AND ECONOMIC INTEGRATION**
COURSE CODE:	**EC-625**
CREDIT HOURS:	**03**

Course Description:

This course provides an in-depth exploration of the complex and multifaceted phenomenon of globalization and its impact on economic integration. Students will examine the historical evolution, theories, and key institutions that shape the global economic landscape. The course will delve into the dynamics of economic integration, including regional trade agreements and unions. Additionally, it will analyze global trade patterns, financial markets, and the challenges and critiques associated with globalization. Through case studies and real-world examples, students will develop a comprehensive understanding of how globalization influences economic policies, international relations, and the well-being of nations.

Week 1-2: Introduction to Globalization

- Definition and Concepts
- Historical Overview of Globalization
- Drivers of Globalization
- Economic, Political, and Cultural Dimensions

Week 3-4: Theories of Globalization

- Classical and Neoclassical Perspectives
- Marxist and Dependency Theories
- Modern Theories (Hyperglobalist, Skeptic, Transformation list)

Week 5-6: Global Economic Institutions

- International Monetary Fund (IMF)
- World Bank
- World Trade Organization (WTO)
- United Nations Conference on Trade and Development (UNCTAD)

Week 7-8: Economic Integration

- Levels of Economic Integration
- Customs Unions and Common Markets
- Economic and Monetary Unions
- Case Studies: EU, NAFTA, ASEAN

Week 9-10: Global Trade Patterns

- International Trade Theories (Comparative Advantage, Heckscher-Ohlin, New Trade)
- Global Value Chains

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- Trade Policies and Agreements
- Trade and Development

Week 11-12: Global Financial Markets

- Foreign Exchange Markets
- Capital Flows and Investment
- Sovereign Debt Issues
- Financial Crises

Week 13-14: Challenges and Critiques of Globalization

- Inequality and Globalization
- Environmental Issues
- Cultural Homogenization
- Future Trends and Debates

RECOMMENDED TEXT BOOKS:

- Stiglitz, J. E. (2002). Globalization and its Discontents. New York.
- Freidman, T. (2005). The world is flat. New York: Farrar, Straus and Giroux. 40
- Bhagwati, J. (2007). In defense of globalization: With a new afterword. Oxford University Press.
- Stiglitz, J. E. (2008). Making Globalization Work. WW Norton & Company.
- O'Rourke, Kevin H., and J. G. Williamson (1999), Globalization and History: The Evolution of a Nineteenth-Century Atlantic Economy, MIT Press
- Findlay, Ronald and Kevin H. O'Rourke (2007). Power and Plenty: Trade, War, and the World Economy in the Second Millennium. Princeton University Press.
- Yarbrough, B. V., & Yarbrough, R. M. (2014). Cooperation and governance in international trade: The strategic organizational approach. Princeton University Press.

COURSE TITLE:	**ECONOMICS OF GENDER**
COURSE CODE:	**EC-626**
CREDIT HOURS:	**03**

Course Introduction:

This course explores the gender dimensions of economic life in developing countries and how these can be examined in economic data analysis and policy research. It draws on the rich body of research of gender-aware economics and includes: household economics, paid and unpaid work, labor markets, entrepreneurship, migration, agriculture, trade and gender-responsive budgeting. The treatment of these gender-related topics include a feminist economics perspective and focus on its application in developing countries and in the process of economicdevelopment.

Learning Outcomes:

By the completion of the course, students should be able:

1. understand the concept of gender and what it means in general.
2. how the gender dimensions and lens change the outlook of all the economics outcomes?
3. how to measure the unpaid care work and what methodologies are used to value them?

Course Contents

1. **What is Gender in EconomicAnalysis?**

Subject and methods of gender economics. Gender statistics. System of gender inequality factors, Institutionalization of gender economic studies. Methods of

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gender economics. Inter-disciplinary approach in gender studies. Macro- and micro- level of studies, General principles of and requirements for data collection in the framework of an integrated system of gender state statistics, the development factor, discrimination and behavioral factors, Gender order, Gender gap in access to resources and control over economic resources. Gender risk groups. and gender differences in incomes. Women's contribution to GDP. Estimation of women's unpaid work (GDP satellite accounts).

2. **Gender Inequality in TheLabor Market**

Economics of the labor market, Inequality in the labor market: entry into and exit from the labor market, careers, wages, skills training. Inequality and discrimination. Types of segregation. Measurement of segregation. Models of gender inequality and gender discrimination in the labor market. Factors in wage disparities, role of culture, norms and identity.

4. **The Gender Factor in HouseholdsEconomics**

Household economics: theoretical concepts and gender critique. Gender critique of the neo-Marxist approach. The gender contract, negotiation models within families. Household time budgets: structure, and problem of measurement. Distribution of time: work in the labor market, work in the household, leisure time, Unpaid work and care work, Distribution of incomes (expenditures) in the household: inter-generational and gender aspect. Model of investment in human capital. Function of production of human capital. Investments in human capital at household level and the sex factor. Accumulation of human capital over a life cycle. Household factors (reproductive, productive, structural, income-based, power-related) and employment of household members. Marital and age-dependent models of female and male employment.

5. **Measuring and Valuing Unpaid Domestic and CareWork**

What is unpaid domestic and care work? What is unpaid domestic and care work? Time Use Surveys, Descriptive statistics related to unpaid and care work, Policies targetingunpaid domestic work and care work.

6. **Gender Policy and Genderinequality indicators**

Incorporation of gender policy elements into socio- demographic policies in various countries. Main gender issues in socio-economic development in developed countries, developing countries and CIS countries. Regional particularities of gender policy. Gender issues in the Millennium Development Goals. Indicators of gender differences in socio- economic development. Incorporation of the gender factor into the Human Development Index, Gender Equality Indices.

7. **Gender Budgets**

The government budget, Definition of gender responsive budgeting (GRB), Tools for integrating a gender perspective into different levels of the budget, Gender analysis of different components of the budget (Public Expenditure and Taxation), Methodology of gender budget preparation. Approaches and principles of gender budgeting. Experiences of different countries in gender budgeting

Recommended Books:

1. Beneria, L2003. Gender, Development and Globalisation. Economics As If All PeopleMattered. New York: Routledge
2. Jacobsen, J 2007. The Economics of Gender. Cambridge:Wiley Blackwell.

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3. Rai, S. and G. Waylen (eds). 2014. New Frontiers in Feminist Political Economy. London.Routledge.

Recommended Research Articles:

4. Kabeer, N. (1994) Reversed realities: gender hierarchies in development thought,London: Verso
5. Kabeer, N. (2012) Women's economic empowerment and inclusive growth: labormarkets and enterprise development
6. Macdonald, M. (1995) Feminist Economics: From Theory to Research, The CanadianJournal of Economics, 28(1), 159-176.
7. Chant, S. (2007) Gender Generation and Poverty: exploring the 'feminization of poverty inAfrica, Asia and Latin America.

COURSE TITLE:	**AGRI-BUSINESS MANAGEMENT**
COURSE CODE:	**EC-627**
CREDIT HOURS:	**03**

COURSE OBJECTIVES

The modern agribusiness industry includes many stakeholders such as producers, businesses providing them with supplies and services, businesses adding value to farm products (e.g. processors), and those businesses that facilitate the marketing of agricultural products to an ever-growing marketplace (e.g. wholesalers and retailers, government, policymakers, and consumers). It addresses the 'farm to fork' paradigm. This sector operates in a complex and uncertain environment and continuously faces new challenges including technological developments in production, manufacturing, and marketing processes, heightened environmental concerns, and increased nutritional awareness throughout the community. It is however expected that it must generate competitive and sustainable financial returns over the short and long run.

The overall objective of this course is to enhance students' understanding of the management of food and agribusiness firms from a managerial perspective and the importance of strategic management in agribusiness. The course will enable students to actively use the principles and techniques explained to them during the course in a global, ever-changing, competitive, and even hostile environment.

EXPECTED LEARNING OUTCOMES

At the end of this course, the student should be able to:

- Understand the international trends and agribusiness issues, etc.
- Conduct external and internal environmental analysis
- Understand and apply competitor analysis
- Make strategic choices for an agribusiness
- Evaluate the feasibility of a proposed venture in the agricultural sector
- Understand the theoretical concepts of managing an agribusiness and relate these concepts to the operational environment of the agribusiness
- Understand strategies in the global marketplace

PRE-REQUISITES

Exposure and background knowledge and skills required in:

- Microeconomics

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- Production Economics
- Management and Business studies
- Financial Management
- Principles of Marketing

COURSE CONTENTS

Basic concept relating to agribusiness: Scope and importance of agribusiness, Agribusiness versus business; Agribusiness Management: Planning, organizing, Leading and Controlling; Different forms of agribusiness organization: Production sector, Processing sector, Services sector; Changing dimension of Agribusiness; understanding the concept of agricultural markets and marketing, role of agricultural marketing in national development of Pakistan, approaches to agricultural marketing system (institutional approach, commodity approach, value chain approach) Principles of agribusiness value chain management: Product flow from farm to market, Information flow, value flow, governance of food chain; Case studies of sugarcane, fruit and vegetable value chain

Suggested Readings:

1. Beierlein, J. G., K. C. Schneeberger and D. D. Osburn. 2013. Principles of Agribusiness Management. 5th Edition. Waveland Pr Inc.
2. Mohy-ud-Din, Q. and H. Badar. 2011. Marketing of Agricultural Product in Pakistan: Theory and Practices, Higher Education Commission, Islamabad, Pakistan

COURSE TITLE:	**GENERAL EQUILIBRIUM AND WELFARE ECONOMICS**
COURSE CODE:	**EC-628**
CREDIT HOURS:	**03**

COURSE DESCRIPTION:

In this course, we extend the partial equilibrium analysis, studied in the basic microeconomics, to general equilibrium. Alternatively, here we study the equilibrium and their welfare consequences in case of many markets where the allocation of resources result from the interaction of several economic agents (consumers and producers). The basic structure is based the competitive forces with no externality and no information asymmetry accompanied by rational individuals (utility maximization of consumers and profit maximization of producers). The maximization behavior of individual economic agents occurs in such a way that all markets clear in a simultaneous way. Second, the course includes the theory of social choice and welfare ranging from the measurement of welfare to the fundamental theorems of welfare. After the completion of course, the student should be able to understand the framework of general equilibrium and its welfare characteristics.

COURSE OBJECTIVES:

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

COURSE CONTENTS

1. **Introduction to General Equilibrium**

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

2. Exchange Economy

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

3. Production Economy

General equilibrium of production and consumption; A Robinson Crusoe Economy: One Consumer and One Producer Economy, Equation of Contract Curve, Production Possibility Frontier, ISO Welfare Line, Pareto Efficiency in Robinson Crusoe Economy; General equilibrium in the two-sector model; The Production Economy in Edgeworth Box: 2x2 Model, Pareto Efficiency in 2x2x2 economy, general equilibrium and allocation of resources, Extension of the simple general equilibrium model to any number of Consumers, producers and factors 3. Application of General Equilibrium Theory some applications like Heckscher-Ohlin Theory of Trade, Stolper Samuelson Theorems, Problems of the general equilibrium model

4. **Welfare Economics**

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

5. Ethics and development:

Normative framework for development Normative concerns lie at the heart of development analysis and policy. Development policy and uncertainty, trade-off, and complexity Any public policy is based on ideas about what matters.

Different kinds of ideas lead to different kinds of actions (e.g. poverty reduction policies depend on how poverty is conceptualized). The output or impact on wellbeing of any given policy varies depending on the context of countries or societies. Concerns for people should come first in social and economic progress

TEACHING METHODOLOGY

 Lectures In Class discussion

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

COURSE TITLE:	**GAME THEORY**
COURSE CODE:	**EC-629**
CREDIT HOURS:	**03**

Course Objectives:

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Game theory is the study of multiperson decision problems. How individuals take decisions in a situation where his/her interests depends not only on own actions but on the actions of other people as well. Game theory provides the analysis of such strategic interactions. This subject is an introduction to the economic study of game theory. A main aim of this subject is to show how tools and techniques from game theory can be applied to interesting and relevant problems in economics and everyday life.

COURSE CONTENTS:

1. Principles and Basic Concepts of Game Theory

- Introduction: Basic Concepts
- Static Games of Complete Information. Strategic Game: Simultaneous games with pure and discrete strategies, Pure strategy Nash Equilibrium, Pure Versus Behavioral Strategies, Common Knowledge of Rationality. Dominate and dominated strategy. Iterative elimination of dominated strategy. Correlated Equilibrium o Multiple Nash Equilibria, Pareto Optimality, Existence of Nash Equilibrium
- Static Games of complete but imperfect information o Simultaneous games with continuous and mixed strategies, Non-Existence of a Pure Strategy Equilibrium. Mixed Strategy Nash Equilibrium
- Dynamic games of complete information . Sequential Games: Extensive form representation of game . Theory of Backward Induction, Sequential Rationality and Backward Induction, Sub Game Perfect Nash Equilibrium (SPE), Critique of Backward Induction and Sub game Perfection
- Dynamic games of complete but imperfect information . Sub-games, Sub-game perfect Nash Equilibrium

2. Advanced Concepts of Game Theory

- Static Games of Incomplete Information, o Static Bayesian Games and Bayesian Nash Equilibrium, Examples of Bayesian Equilibrium,
- Dynamic Games of Incomplete information,. Perfect Bayesian Equilibrium. Signaling Games
- Repeated games: Finitely Repeated Games with Several Static Equilibria . Infinitely Repeated Games, Infinite Horizon Equilibria, . Folk Theorem

3. Applications of Game Theory

- Industrial organization: Cournot Model of Duopoly . Cournot Competition Under Asymmetric Information . Providing a Public Good under Incomplete Information Bertrand Model of Duopoly, the Problem of Commons . Stackelberg Model of Duopoly
- Bargaining: Rubinstein Model of Bargaining, Uniqueness of Infinite Horizon Equilibria, comparative Statics
- Auctions: Theory of Auctions and Competitive Bidding

TEACHING METHODOLOGY:

□ Lectures □ In Class Activities □ Written Assignments

TEXT AND REFERENCE BOOKS:

- Mas-Colell, Whinsten and Green. Microeconomic Theory
- H. R. Varian , Microeconomic Analysis
- Martin J. Osborne, An Introduction to Game Theory

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- Robert Gibons , Game Theory for Applied Economists
- Osborne and Rubinstein , A Course in Game Theory
- Abreu, D. and D. Pearce and E. Stacchetti, "Optimal Cartel Equilibria with Imperfect Monitoring," JET, 39, 1986, 251-269
- Abreu, D. and D. Pearce and E. Stacchetti, "Toward a Theory of Discounted Repeated Games with Imperfect Public Monitoring," Econometrica, 58, 1990, 1041-1063
- Compte O., "Communication in Repeated Games with Imperfect Private Monitoring," Econometrica, 66, 1998, 597-626
- David M. Kreps "Game Theory and Economic Modelling". Oxford University Press.
- Ely, J. and J. Valimaki, "A Robust Folk Theorem for the Prisoner's Dilemma," JET, 102, 2002,84-105.

ARTS AND HUMANITIES (Please select one Course in entire Degree)

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
10.	PASH-324	Pashto Language*	02
11.	URD-323	Urdu Language*	02
12.	IS-320	Arabic Language*	02
13.		Turkish Language*	02
14.		Chinese Language*	02
15.	PHIL-311	Introduction to Philosophy**	02
16.	IS-323	History of Islamic Culture & Civilization**	02
17.	HIS-411	Introduction to History**	02
18.	EDU-414	Introduction to Education**	02

- Or any other language approved by BKUC *
- Or any other approved course of BKUC**

COURSE TITLE: URDU LANGUAGE
COURSE CODE: URD-312
CREDIT HOURS: 02

اردو ادب کا تعارف

C.H 2 کورس کوڈ-323 اردو اختیاری

الف: ا۔ اردو کے مختلف نام اور ان کی وجہ تسمیہ

۲۔ حروف تہجی

ب: اصناف نظم و نثر

داستان	ناول	افسانہ	ڈرامہ	
آپ بیتی	خاکہ	سوانح	انشائیہ	مکتوب نگاری
حمد	نعت	منقبت	مثنوی	مرثیہ
قصیدہ	شہر آشوب	نظم	آزاد نظم	نظم

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معریٰ نظم غزل

ج: دبستان اور تحریکیں (مختصر جائزہ)

ا۔ دبستان دہلی ۲۔ علی گڑھ تحریک

د: افسانے (فکری و فنی جائزہ)

ا۔ کفن پریم چند

۲۔ نیا قانون سعادت حسن منٹو

ر: غزلیں

ا۔ غالب

(ہزاروں خواہشیں ایسی کہ ہر خواہش پہ دم نکلے)

۲۔ اقبال

(جنہیں میں ڈھونڈتا تھا آسمانوں میں زمینوں میں)

مجوزہ کتب:

ا۔ کشاف تنقیدی اصطلاحات ابوالاعجاز صدیقی

۲۔ ادبی اصطلاحات انور جمال

COURSE TITLE:	ARABIC LANGUAGE
COURSE CODE:	**IS-320**
CREDIT HOURS:	**02**

Title	Description
Objectives of the Course	ا۔ طلباء کو عربی زبان کی اہمیت سے آگاہ کرنا۔ ب۔ طلباء کو علم صرف اور نحو کے بنیادی قواعد سے آگاہ کرنا تاکہ اسلامی علوم سے کماحقہ استفادہ کیا جاسکے۔ ت۔ طلباء کو علم صرف کے بنیادی اصولوں سے آگاہ کرنا۔

Course Description

S.No	Topic	Description
1.	عربی زبان کا تعارف و اہمیت	ا۔ عربی زبان کا آغاز اور ارتقاء۔ ب۔ عربی زبان کی اہمیت اور علوم اسلامیہ کے فہم میں عربی زبان کا کردار۔

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2.	مفرد کی تعریف اقسام اور علامات	الف۔ مفرد، اسم، فعل اور حرف کی تعریف اور اقسام ب۔ اسم، فعل اور حرف کی علامات
3.	مرکب، اسم معرفہ	الف۔ مرکب کی تعریف اور اس کے اقسام ب۔ اسم معرفہ اور نکرہ کی تعریف اور اقسام
4.	ماضی اور مضارع	۔ فعل ماضی اور مضارع کا تعارف اقسام اور گردانیں ت۔ فعل ماضی اور مضارع کے بنیادی صرفی قواعد۔
5.	فعل امر و نہی	ا۔ فعل امر و نہی کا تعارف، اقسام اور گردانیں۔ ب۔ فعل امر و نہی کے بنیادی صرفی قواعد۔
6.	اسماء۔1	ا۔ اسم فاعل کا تعارف اور صرفی قواعد۔ ب۔ اسم مفعول کا تعارف اور صرفی قواعد۔
7.	اسماء۔2	ا۔ اسم تفضیل اور اسم آلہ کا تعارف اور صرفی قواعد۔ ب۔ اسم ظرف (زمان و مکان) کا تعارف اور صرفی قواعد۔
8.	اسماء۔3	ا۔ اسم اشارہ (قریب اور بعید)۔ ب۔ اسم موصول اور جملہ موصولہ کا تعارف۔
9.	معرب و مبنی	ا۔ اسم معرب کا تعارف اور اس کی اقسام۔ ب۔ اسماء مبنی کا تعارف اور ان کی اقسام۔
10.	حروف	ا۔ حرف نداء اور حروف جوازم مضارع۔ ب۔ حروف نواصب مضارع
11.	ثلاثی مجرد	ا۔ فعل ثلاثی مجرد کا تعارف۔ ب۔ فعل ثلاثی مجرد کے ابواب۔
12.	ثلاثی مزید فیہ (ا)	ا۔ فعل ثلاثی مزید فیہ کا تعارف۔ ب۔ فعل ثلاثی مزید فیہ کے ابواب۔
13.	ثلاثی مزید فیہ (۲)	ا۔ ثلاثی مزید فیہ کے ابواب کا تفصیلی مطالعہ۔
14.	ہفت اقسام (ا)	ا۔ صحیح اور مثال (واوی۔ یائی) ب۔ مضاعف اور لفیف (مفروق اور مقرون)
15.	ہفت اقسام (ب)	ا۔ ناقص (واوی۔ یائی) ب۔ مہموز (الفاء والدین واللام) اور اجوف۔
16.	ضمائر، اسم تصغیر اور اسم منسوب	الف۔ ضمائر تعریف اور کی اقسام ب۔ اسم تصغیر اور منسوب

نصابی کتب

نمبر شمار	نام مصنف	نام کتاب
1.	عبد الستار	عربی کا معلم۔ (چاروں حصّے)

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2.	معیناللہ ندوی۔	۔تمرین صرف
3.	محمد مصطفیٰ ندوی۔	۔تمرین نحوا
4.	مولانا عبد الماجد ندوی۔	۔معلم الانشاء
5.	مولانا مختار احمد۔	۔مختار النحو

حوالہ جاتی کتب

نمبر شمار	نام مصنف	نام کتاب
1.	علی جارم۔	النحو الواضح
2.	نعیم الرحمن۔	اساس عربی
3.	رشید الشرطوتی۔	۔مبادی العربیہ فی الصرف النحو
4.	عبد الرحمن امرتسری۔	۔کتاب النحو
5.	محمد مصطفیٰ ندوی۔	۔تمرین النحو
6.	عبد الرحمن طاہر۔	۔قواعد القرآن
7.	جامعتہ الملک السعود، ریاض۔	۔اللغتہ العربیتہ لغیر الناطقین بھا
8.	ڈاکٹر ابراہیم سورتی۔	۔قرانی عربیک

COURSE TITLE: INTRODUCTION TO PHILOSOPHY
COURSE CODE: PHIL-311
CREDIT HOURS: 02

Course Objectives:

- Understanding basic concepts of philosophy in the fields of metaphysics, axiology, and epistemology.
- Understanding of philosophical terms.

Course Contents:

- A review of the history of philosophy.
- A discussion on the major problems and methods of philosophy.
- Plato
- Aristotle
- Renaissance Philosophers Machiavelli
- Hobbes, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant.
- Idealists: Fichte, Schelling, Schiller, Hegel.
- Utilitarian Philosophers: Jeremy Bentham, J.S. Mill.
- Romantic Reactionaries: Rousseau, Schopenhauer, Kierkegaard.
- Materialist Philosophers: Feuerbach, Marx.
- The Irrational Philosophers: Bergson, Freud.
- Phenomenologists and Existentialists: Husserl, Heidegger, Sartre, Camus, Fanon.
- Marxist Philosophers:Lukacs, Gramsci, Croce, Althusser.

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- Linguists, Semiotician, Structuralist, and Deconstructionists: Saussure, Levi-Strauss, Lacan, Barthe, Foucault, Derrida.

Recommended Books:

1. Adorno, T.W., Aesthetic Theory. Tr. By C. Lenhardt. London: Routledge & Kegan Paul, 1984 2. Ahmad, Absar, Concept of Self and Self-Identity in Contemporary Philosophy. Lahore: Iqbal Academy, 1986
3. Aldrich, Virgil. Philosophy of Art, New Jersey: Prentice Hall, 1963
4. Anne, Bruce, Metaphysics: The Elements. Oxford: Basil Blackwell, 1986
5. Aristotle, The Works of Aristotle, edited by W.D. Ross. Vol x. Politica, translated by Benjamin Jowett. Oxford: Clarendon Press

COURSE TITLE: HISTORY OF ISLAMIC CULTURE AND CIVILIZATION
COURSE CODE: IS-323
CREDIT HOURS: 02

Title	Description
Objectives of the Course	۱۔ اسلامی تہذیب وتمدن کا تعارف کروانا ۲۔ دنیا کے مختلف علاقوں میں اسلامی تہذیب کے عروج وزوال کا جائزہ لینا ۳۔ دوسری تہذیبوں سے اخذ واستفادہ اور ان پر اسلامی تہذیب کے اثرات کا جائزہ لینا

Course Description

S.No.	Title	Description
.1	تہذیب وتمدن اور ثقافت کا تعارف۔I	۱۔ تہذیب وتمدن کا مفہوم ۲۔ ثقافت کا مفہوم
.2	تہذیب وتمدن کا تعارف۔II	۱۔ تہذیب وتمدن کی بنیاد ۲۔ تہذیب وتمدن کے ارکان اور اہمیت
.3	دور نبوی سے قبل اہم تہذیبیں۔I	۱۔ قبل از اسلام کی جاہلی تہذیب ۲۔ یونانی ورومی تہذیب
.4	دور نبوی سے قبل اہم تہذیبیں۔II	۱۔ مصری تہذیب ۲۔ ہندوستانی تہذیب
.5	اسلامی تہذیب کے اصول ومبادئ	۱۔ اسلامی تہذیب کی بنیادیں ۲۔ اسلامی تہذیب کے عناصر وارکان
.6	عہد نبوی ودور خلافت راشدہ میں اسلامی تہذیب	۱۔ عہد نبوی ﷺ وخلافت راشدہ میں اسلامی تہذیب کے ارتقاء کے اسباب ۲۔ خلافت راشدہ میں اسلامی تہذیب کے مظاہر
.7	دور بنو امیہ میں اسلامی تہذیب۔I	۱۔ دور بنو امیہ کا تعارف ۲۔ دور بنو امیہ میں علمی ترقی اور علمی مراکز
.8	دور بنو امیہ میں اسلامی تہذیب۔II	۱۔ دور بنو امیہ کے تہذیبی ترقی کے اسباب ۲۔ دور بنو امیہ کی تہذیبی ترقی کے نتائج

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.9	دور بنو امیہ میں اسلامی تہذیب۔III	۱۔دور بنو امیہ کی معاشرتی ترقی ۲۔دور بنو امیہ کی معاشی ترقی
.10	دور بنو عباس میں اسلامی تہذیب۔I	۱۔عباسی تہذیب کا آغاز ۲۔دور عباسی کی علمی تحریکیں اور علمی مراکز
.11	دور بنو عباس میں اسلامی تہذیب۔II	۱۔دور بنو عباس میں تہذیبی ترقی ۲۔دور بنو عباس میں معاشرتی ترقی
.12	دور بنو عباس میں اسلامی تہذیب۔III	۱۔دور بنو عباس میں اسلامی تہذیب کا دوسری تہذیبوں سے مکالمہ ۲۔عباسیوں کے زوال کے اسباب اور اس کے اسلامی تہذیب پر اثرات
.13	دور بنو عباس میں اسلامی تہذیب۔IV	۱۔صلیبی جنگیں اور تاتاری حملے ۱۔صلیبی جنگوں اور تاتاری حملوں کے اسلامی تہذیب کے اثرات
.14	اسپین میں اسلامی تہذیب	۱۔اسپین میں اسلامی تہذیب کی اشاعت کے اسباب ۲۔اسپین میں اسلامی تہذیب کے مظاہر اور یورپی تہذیب پر اثرات
.15	برصغیر پاک وہند میں اسلامی تہذیب وتمدن۔I	۱۔برصغیر پاک وہند میں اسلامی تہذیب کا ارتقاء ۲۔برصغیر پاک وہند میں اسلامی تہذیبی کارنامے
.16	برصغیر پاک وہند میں اسلامی تہذیب وتمدن۔II	۱۔برصغیر پاک وہند میں اسلامی تہذیب کی اشاعت کے اسباب ۲۔برصغیر پاک وہند میں اسلامی تہذیب کی اشاعت کے اثرات دوسری تہذیبوں پر

نصابی کتب

نمبر	نام مصنف	نام کتاب
1	شاہ معین الدین ندوی	تاریخ تمدن اسلامی
2	اکبر شاہ نجیب آبادی	تاریخ اسلام
3	حسن ابراہیم حسن	تاریخ الاسلام السیاسی
4	ابن کثیر	البدایۃ النھایۃ
5	مصطفی سباعی	اسلامی تہذیب کے درخشاں پہلو

حوالہ جاتی کتب

نمبر	نام مصنف	نام کتاب
1	ابن اثیر	الکامل
2	ڈاکٹر یسین مظہر صدیقی	تاریخ تہذیب اسلامی (چاروں حصے)
3	ثروت صولت	ملت اسلامیہ کی مختصر تاریخ
4	H.W Hazard	An Atlas of Islamic History
5	S.F.Mehmood	A Short History of Islam

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COURSE TITLE:	**INTRODUCTION TO HISTORY**
COURSE CODE:	**HIS-411**
CREDIT HOURS:	**02**

Course Objectives:

The purpose of this course is:

- To make students aware of the nature of historical knowledge and research.
- To introduce to the students of History the basic concepts and controversies related to historical understanding.
- To inculcate among the students a sense of historical evolution of human knowledge, development and progress
- To develop among the students of history an ability to understand the common themes of historical knowledge.

Course Contents:

1.What is History?

- Literal, terminological and conceptual meaning of history
- History as Fact
- History as Process
- History as Narrative
- Memory, Record and History

2. Nature of History:

- Being and Becoming;
- Continuity and Change;
- Evolution, Progress and Development
- Macrocosm & Microcosm: Time, Space, Causation,
- Facts and opinion/ objectivity & Subjectivity

3. Utility, Benefits & importance of History:

- History as a corrective/cohesive force;
- History as a repetitive force
- Continuity of History from Past to Future
- Lessons from Past
- Historical determinism, etc.
- History as Mother of All Sciences/Knowledge

4. Epistemological nature of History:

- Relationship of History with other forms of knowledge:
- Natural Sciences
- Social Sciences
- Literature and Arts

5. Forms and Classification of History

Suggested Readings:

1. Burke, Varieties of Cultural History, Cornell University Press, 1977
2. Carlo, Ginzburg. Clues. Myths, and the Historical Method, John Hopkins: University Press, 1992
3. Carr, E. H., What is History? Harmondsworth: Penguin, 1961

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4. Cohn, Bernard. An Anthropologist among Historians and Other Essay, Oxford University Press, 1988
5. Collingwood, R. G. The Idea of History. Oxford: Oxford University Press, 1978.
6. Daniels, Studying History: How and Why, New Jersey, 1981.
7. Gertrude Himmalfarb. The New History and the Old, Cambridge: Harvard University Press, 1987
8. Govranski. History Meaning and Methods, USA, 1969
9. Hegel. Elements of the Philosophy of Right. Cambridge University Press, 1991
10. Qadir, Khurram, Tarikh Nigari Nazriyat-o-Irtiqa, Lahore: Palgrave, 1994.
11. Qureshi, Muhammad Aslam. A Study of Historiography. Lahore: Pakistan Book Centre, Latest Edition.
12. Steedman. Caroline, Dust: The Archive and Cultural History, Manchester University Press, 2002
13. Stern Fritz, Varieties of History: from Voltaire to the Present, Vintage, and Edition 1975
14. Tahir Kamran, The Idea of History Through Ages, Lahore: Progressive Publisher, 1993
15. Lemon, M. C., Philosophy of History, London: Routledge, 2003
16. Marwick, Arthur, The New Nature of History, London, 1989, pp.31-35.
17. Roberts, Geoffrey, ed., History and Narrative Reader, London: Routledge, 2001.
18. Shafique, Muhammad, British Historiography of South Asia: Aspects of Early Imperial Patterns and Perceptions, Islamabad, NIHCR, Quaid-i- Azam University, 2016

COURSE TITLE: INTRODUCTION TO EDUCATION
COURSE CODE: EDU-414
CREDIT HOURS: 02

COURSE CONTENTS:

Introduction:
- Meaning and Definition of Education
- Importance of Education
- Modes of Education.

Foundation/Perspectives of Education:
- Philosophical
- Psychological
- Socio-Cultural, and
- Economic

Instructional Objectives:
- Goals
- Aim
- Objectives
- Importance of Learning Objectives.
- Taxonomy of educational Objectives.

Teaching Methodology:
- Traditional
- Modern
- Instructional Material.
- Instructional Techniques.

Class Room Management:

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- Criteria for student's classification
- Need for classification
- Psychological factors of classification in system of examination.

Learning:

- Introduction
- Meaning and Definition
- Nature of Learning.
- Factors effecting learning.
- Approaches of Learning (Behavioral and Cognitive).

Educational Guidance and Counseling:

- Definition and Nature of Guidance.
- Role and Function of Guidance.
- Counseling and its Principles.

COURSE RECOMMANDED BOOKS:

1. Elias, John L. and Merriam, Sharan.(1984). Philosophical Foundation of Education. Malabar Florida: Krieger Publishing Company.
2. Friere, P. (1970). Pedagogy of the Oppressed: What we Consume. W.W.F and Richmond Publishing Company.
3. Gutek, Gerald L. (1988). Philosophical Thinking in Educational Practice. Westport: Con,Praeger Publisher.
4. Iqbal, M. (2001). Reconstruction of Religion Thoughts in Islam. National Education policies, (1972, 1979, 1998, 2010).

SOCIAL SCIENCE (Please select one Course in entire Degree)

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	IR-311	Introduction to International Relations	02
2.	POL-314	Introduction to Political Science	02
3.	SOC-314	Introduction to Sociology	02
4.	PSY-311	Fundamental to Psychology	02
5.	EC-414	Introduction to Economics	02
6.	LAW-411	Introduction to Law	02

- Or any other approved Basic course of BKUC

COURSE TITLE: INTRODUCTION TO INTERNATIONAL RELATIONS
COURSE CODE: IR-311
CREDIT HOURS: 02

Course Objectives:

The course has been design to provide in-depth knowledge about the contemporary world and nature of relationship among the states *Viz-a-viz* nations. The students will be able to see the world with theoretical as well as practical perspectives.

Course Outlines

Introduction

Meaning, Definition and Scope of International Relations.
Nation State: Sovereignty and Security.

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Approaches and Theories in International relations
The role of Power & National Interest;
Concept of Balance of Power.
Concept of Collective Security.
State and Non-State Actors.
Peace through Political Methods
Diplomacy and Negotiations
International Relations & the Changing Contemporary World;
Nuclear Proliferation & Terrorism

RECOMMENDED BOOKS

1. Beckman, Peter, World Politics in the 20th Century, New Jersey, Prentice Hall, 1984
2. Betts, Richard K. Conflict after cold war; Arguments on causes war & Peace, New York, Macmllan Press, 1993
3. Brass, Paul. Ethnicity & Nationalism, Newbury Park, SAGE Publishers, 1992
4. Brilmayer, Lea, American Hegemony, Political Military in a one Super Power, new Heaven, CT; Yale University Press, 1994
5. Columbus, Theodore, Introduction to International Relations: Power and Justice, New Delhi: Prentice Hall, 1992.
6. Herman, Charles F, et al (eds). New Direction in the study of Foreign Policy, Boston, Allen & Unwin, 1987
7. Clinton, W.David, the two faces of National Interest, Baton Rouge, Louisiana state University Press, 1994.
8. Faue, John R hina in the World Politics, Boulder, Western Press, 1980
9. Goldstine, Josha, International Relations, Washington DC: Pearson Education, 2003.
10. Greenfeld, Liah, Nationalism: five roads to modernity, Cambridge, MA: Harvard University Press, 1992

COURSE TITLE: INTRODUCTION TO SOCIOLOGY
COURSE CODE: SOC-314
CREDIT HOURS: 02

COURSE OBJECTIVES

- To equip student with the basic concepts of sociology and various social phenomenon.
- To familiar the students with social process on the basis of which society is smoothly functioning
- To train students to understand and interpret objectively the role of social process, culture and socialization in their lives.

COURSE CONTENTS:

Introduction

- Introduction, Scope, Nature, and Subject Matter of Sociology
- Historical background
- Sociology as a Science
- Relationship of Sociology with other Social Sciences
- Sociological perspectives in Sociology.
- Role of Sociologists in Society.

Group, Community and Society

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- Definition, elements, characteristics of community and society.
- Difference between society and community.
- Various types of societies.
- Difference between rural and urban community.
- Definition and types of social group.

Culture

- Definition, aspects, characteristics, elements, and types of Culture
- Norms, values and social sanctions
- Cultural Universality, Variability, Relativism, Ethnocentrism and Xenocentrism
- Cultural Lag

Socialization & Personality Development

- Meaning, definition and Agencies of Socialization.
- Meaning and definition of self.
- Meaning, definition and types of Personality
- Responsible Factors in Personality Formation.
- Theories of socialization, self and personality development.

Role and Status

- Definition and types of role.
- Definition and types of status.
- Determinants of status

Social Processes

- Social interaction and forms of social interaction
- Cooperation
- Competition
- Conflict
- Assimilation and acculturation
- Accommodation

Social Stratification and Mobility

- Introduction, Definitions, Determinants and types of social stratification.
- Difference between caste and class.
- Introduction, meaning and definition of social mobility.
- Dynamics and types of social mobility
- Difference between mobility and migration

Collective Behaviors and Social Movements

- Meaning, definitions, types and nature of collective behaviors.
- Meaning, definitions, types of Crowed.
- Meaning, definitions, kinds and life cycle of social movements

COURSE RECOMMENDED BOOKS:

1. Ballantine, Jeanne H. and Roberts, Keith A. (Condensed Version) 2010. *Our Social World.* California: Pine Forge Press/Sage Publication.
2. Brown, Ken 2004. *Sociology*. United Kingdom: Polity Press
3. Brym, Robert J. and Lie, John. *Sociology: Your compass for a new world* (Brief Edition) 2007 Belmont: Thomson Wadsworth.

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4. Colander, David C. and Hunt, Elgin F. (Thirteenth Edition) (2010) *Social Sciences: An introduction to the study of Society.* India: Pearson Education/Dorling Dindersley.
5. Gidden, Anthony 2002. *Introduction to Sociology*. UK: Polity Press.
6. Rao, C. N. Shankar (2008) 'Sociology: Principles of Sociology with an Introduction to Social Thoughts' New Delhi: S. Chand & Company.
7. James M. Henslin. (2004). *Sociology: A Down to Earth Approach*. Toronto: Allen and Bacon.
8. Macionis, John J. (2006). 10th Edition *Sociology* New Jersey: Prentice-Hall
9. Montuschi, Eleonora. (2006). *The Objects of Social Sciences* New York: Continuum.

COURSE TITLE:	**FUNDAMENTALS OF PSYCHOLOGY**
COURSE CODE:	**PSY-311**
CREDIT HOURS:	**02**

Course Description

This course provides some basic knowledge of the key terms, facts and principles designed to aid the students in understanding individual behavior. Behavior is analyzed and interpreted through activities and discussion of such topics as motivation, emotion, perception, learning and intelligence.

Course Objectives

- To describe psychology with major areas in the field,
- To identify the parameters of this discipline. Distinguish between the major perspectives on human thought and behavior. Appreciate the variety of ways psychological data are gathered and evaluated.
- To gain insight into human behavior and into one's own personality or personal relationships. Explore the ways that psychological theories are used to describe, understand, predict, and control or modify behavior.

Course Outlines

1. Introduction to Psychology:

a. Nature and Application of Psychology with special reference to Pakistan.
b. Historical Background and Schools of Psychology (A Brief Survey)

2. Methods of Psychology

a. Observation
b. Case History Method Experimental Method
c. Survey Method
d. Interviewing Techniques

3. Biological Basis of Behavior

a. Neuron: Structure and Functions
b. Central Nervous System and Peripheral Nervous System
c. Endocrine Glands

4. Sensation, Perception and Attention

- Sensation
- Characteristics and Major Functions of Different Sensations
- Vision: Structure and function of the Eye
- Audition: Structure and functions of the Ear

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- Perception
- Nature of Perception
- Factors of Perception: Subjective, Objective and Social
- Kinds of Perception
- Spatial Perception
- Temporal Perception; Auditory Perception
- Attention
- Factors, Subjective and Objective
- Span of Attention
- Fluctuation of Attention
- Distraction of Attention (Causes and Control)

5. Motives

- Definition and Nature
- Classification
- Primary (Biogenic) Motives: Hunger, Thirst, Defection and Urination, Fatigue, Sleep, Pain, Temperature, Regulation, Maternal Behavior, Sex
- Secondary (Suicidogenic) Motives: Play and Manipulation, Exploration and Curiosity, Affiliation, Achievement and Power, Competition, Cooperation, Social Approval and Self Actualization.

6. Emotions

- Definition and Nature
- Physiological changes during Emotions (Neural, Cardial, Visceral, Glandular),
- Theories of Emotion
- James Lange Theory; Canon-Brad Theory
- Schechter-Singer Theory

7. Learning

- Definition of Learning
- Types of Learning: Classical Operant Conditioning, Methods of Learning: Trial and Error; Learning by Insight; Observational Learning

8. Memory

- Definition and Nature
- Memory Processes: Retention, Recall and Recognition
- Forgetting: Nature and Causes

9. Thinking

- Definition and Nature
- Tools of Thinking: Imagery, Language, Concepts
- Kinds of Thinking
- Problem Solving, Decision Making, Reasoning

Recommended Books

1. Atkinson R. C., & Smith E. E. (2000). Introduction to psychology (13th ed.). Harcourt Brace College Publishers.

2. Fernald, L. D., & Fernald, P. S. (2005). Introduction to psychology. USA: WMC Brown Publishers.

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3. Glassman, W. E. (2000). Approaches to psychology. Open University Press. Hayes, N. (2000). Foundation of psychology (3rd ed.). Thomson Learning. Lahey, B. B. (2004). Psychology: An introduction (8th ed.). McGraw-Hill Companies, Inc.
4. Leahey, T. H. (1992). A history of psychology: Main currents in psychological thought. New Jersey: Prentice-Hall International, Inc.
5. Myers, D. G. (1992). Psychology. (3rd ed.). New York: Wadsworth Publishers.
6. Ormord, J. E. (1995). Educational psychology: Developing learners. Prentice-Hall,Inc

COURSE TITLE:	**INTRODUCTION TO ECONOMICS**
COURSE CODE:	**EC-414**
CREDIT HOURS:	**02**

Course Description

Introduction to Economics is an entry-level undergraduate course that covers the fundamentals of microeconomics and macroeconomics. The course introduces key microeconomic concepts such as demand and supply analysis, consumer and producer behavior, and market structures, alongside macroeconomic concepts such as national income, unemployment, inflation, and business cycles.

Through a mix of theory, graphical analysis, and basic numerical applications, students will learn to apply economic principles to real-world problems and contemporary policy issues.

Course Objectives

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

- Develop an understanding of basic microeconomic and macroeconomic theory.
- Solve introductory economic problems using graphical and numerical tools.
- Understand the broader implications of economic principles in real-world contexts.
- Strengthen teamwork and collaboration skills through problem-solving exercises.

Course Learning Outcomes (CLOs)
After completing this course, students will be able to:

- Understand consumer and firm behavior and apply graphical analysis to economic situations.
- Calculate and interpret different elasticities.
- Define and derive short-run and long-run production costs.
- Explain and compare different market structures.
- Analyze macroeconomic indicators such as GDP, inflation, and unemployment.

Weekly Course Plan

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Week	Topics	Details	Activities
1	Introduction to Economics	The economic problem, decision makers, circular flow model	Class discussion on “Why Economics Matters”
2	Micro vs. Macro	Distinction between microeconomics and macroeconomics, the market system	Quiz on economic problem & decision makers
3	Demand	Demand function, demand curve, law of demand, shifts, factors affecting demand, consumer surplus	Demand curve plotting exercise
4	Supply	Supply function, supply curve, law of supply, shifts, factors affecting supply, producer surplus	Case analysis on supply changes
5	Market Equilibrium	Equilibrium of demand & supply, price controls, taxes & subsidies	Numerical problem-solving
6	Elasticity	Price elasticity (point & arc), income elasticity, cross elasticity	Elasticity calculation worksheet
7	Consumer Behavior	Utility analysis, law of diminishing marginal utility, equi-marginal principle	Problem set on consumer equilibrium
8	Midterm Review & Exam	Covers Weeks 1–7	Midterm Exam
9	Introduction to Macroeconomics	What is macroeconomics, scope, classical & post-WWII	Group discussion

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Week	Topics	Details	Activities
		developments	
10	Business Cycles	Boom, recession, inflation, unemployment, GDP growth	Short essay on recent business cycle trends
11	National Income Accounting I	GDP, GNP, GDP at factor cost/market price, GDP deflator	Calculation practice
12	National Income Accounting II	Computation (product, income, expenditure methods), real vs. nominal income	Group activity on GDP calculation
13	Standard of Living Indicators	Per capita income, CPI vs GDP deflator, measuring unemployment	Data analysis of inflation/unemployment
14	Aggregate Demand	Open vs. closed economy models, components of AD	Group debate on consumption vs investment
15	Review & Application	Linking micro & macro, policy applications	Policy case study presentations
16	Final Exam	Covers Weeks 8–15	Final Exam

Text and Reference Books

1. Michael J. Swann, William A. McEachern. *Microeconomics: A Contemporary Introduction*, 3rd edition (or latest).

2. N. Gregory Mankiw. *Principles of Microeconomics*, 7th edition (or latest).

3. Campbell R. McConnell, Stanley L. Brue. *Principles of Economics*, 17th edition (or latest).

4. Paul A. Samuelson, William D. Nordhaus. *Economics*, latest edition.

5. N. Gregory Mankiw. *Principles of Macroeconomics*, latest edition.

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6. Samuelson and Nordhaus. *Economics*, 18th edition (or latest).

7. Michael Parkin. *Macroeconomics*, Wesley International Inc. (latest edition).

COURSE TITLE:	**INTRODUCTION TO LAW**
COURSE CODE:	**LAW-411**
CREDIT HOURS:	**02**

COURSE OBJECTIVE:
To give knowledge about different sources of Muslim law and its Importance to students in particular and Muslim society in general.

COURSE CONTENTS:

Introduction
- Definition of law and Muslim law
- Importance of law and Muslim law
- Subject matter of law and Muslim law.

Will (Wasiyat)
- Introduction and definition of will
- Forms of will (Wasiyat)

Gift (Hiba)
- Introduction of gift
- Definition of gift
- Essentials of gift
- Forms of gift (Hiba).

Waqf
- Introduction of Waqf
- Definition of Waqf
- Requisites of Waqf
- Principles of Waqf
- Forms of Waqf.

Marriage
- Introduction and definition
- Essentials of marriage.
- Differences between shia and sunni marriages.
- Valid (sahih)
- Irregular (fasid)
- Void (batil)
- Muta marriage.

Dower
- Introduction and definition of dower.
- Kinds of dower.

Divorce (Talaq)
- Introduction and definition of divorce
- Different modes and kinds of divorce (Talaq).

Explanation of Islamic jurisprudence.

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Sources of Islamic law:

- Quran,
- Sunnah and hadith,
- Ijma,qiyas,
- Masaleh-i-mursala-istislah,
- Ijtihad, and
- Taqlid.

COURSE RECOMMENDED BOOKS:

1. Ahmad. Nazir. (2006). Muslim law & Islamic jurisprudence. Peshawar: islamia book agency.

NATURAL SCIENCES (Please select one Course in entire Degree)

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	BOT-311	Botany (Diversity of Plants-I)	03
2.	ZOO-311	Zoology (Animals Diversity-I)	03
3.	CHEM-310	Chemistry-I	03
4.	PHY-313	Physics-I	03

- Or any other approved Basic Course of BKUC

COURSE TITLE: BOTANY-I (DIVERSITY OF PLANTS-I)
COURSE CODE: BOT-311
CREDIT HOURS: 03

Specific Objectives of course:

To introduce the students to the diversity of plants and their structures and significance.

Course Outline

Comparative study of life form, structure, reproduction and economic significance of: Viruses (RNA and DNA types) with special reference to TMV.

Bacteria and Cyanobacteria (*Nostoc*, *Anabaena*, *Oscillatoria*) with specific reference tobio fertilizers, pathogenicity and industrial importance.

Algae: (Chlamydomonas, Spirogyra, Chara, Vaucheria, Pinnularia, Ectocarpus, Polysiphonia).

Fungi: (Mucor, Penicillium, Puccinia, Agaricus), their implication on crop production andindustrial applications. Lichens: (*Physcia*)

Lab Outline

- Culturing, maintenance, preservation and staining of microorganisms.
- Study of morphology and reproductive structures of the types mentioned in theory.
- Identification of various types mentioned from prepared slides and fresh collections.
- Field trip to study local plant of different area of Pakistan.

Recommended Books

1. Agrios, G.N. 2004. Plant pathology. 8th ed. Academic press London.
2. Alexopoulos, C.J., Mims, C.W. and Blackwell, M. 1996. Introductory Mycology. 4thed. John Wiley and Sons Publishers.
3. Hussain, F. 2014. Phycology. A Text book of Algae. Pak Book Empire, Lahore.
4. Lee, R.E. 1999. Phycology. Cambridge University Press, UK.

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5. Mauseth, J.D. 2003. Botany: An Introduction to Plant Biology. 3rd ed., Jones andBartlett Pub. UK
6. Prescott, L.M., Harley, J.P. and Klein, A.D. 2004. Microbiology, 3rd ed. WM. C.Brown Publishers.
7. Vashishta, B.R. 1991. Botany for Degree Students (all volumes). S. Chand andCompany. Ltd. New Delhi.

COURSE TITLE:	**ZOOLOGY-I (ANIMALS DIVERSITY-I)**
COURSE CODE:	**ZOO-311**
CREDIT HOURS:	**03**

Objectives

Concepts of evolutionary relationship of animal kingdom. Knowledge about animal kingdom, emphasizing their phylogenetic relationships and simple to complex mode of animal life.

Course Contents

Introduction:

Classification of organisms; five kingdom classification, evolutionary relationships/ evolutionary perspective and tree diagrams; patterns of organization.

Animal-Like Protists: Characteristics; Taxonomy; The Protozoa Classification (up to phyla, subphyla and super classes, wherever applicable); Pseudopodia and amoeboid locomotion; cilia and other pellicular structures; nutrition; genetic control and reproduction; symbiotic ciliates; etiology.

Multicellular and Tissue Levels of Organization

Phylum porifera: Characteristics; Taxonomy; cell types, body wall, and skeletons; reproduction; maintenance functions.

Phylum cnidaria (coelenterata), Characteristics; Taxonomy; the body wall and nematocysts; alternation of generations; maintenance functions; reproduction and classification up to class.

Phylumctenophora; further phylogenetic considerations.

Triploblastics and Acoelomate Body Plan

Phylum Platyhelminthes: Characteristics; Taxonomy;classification up to class; body wall; locomotion, digestion and nutrition; the free-living flatworms and the tapeworms;reproduction;phylum Nemertea; phylum gastrotricha; further phylogenetic considerations; Some important trematode and tapworm parasite.

Lab out line

- Study of Euglena, Amoeba, Entamoeba, Plasmodium, Trypanosoma, Paramecium as representative of animal like protists. (Prepared slides).
- Study of sponges and their various body forms.
- Study of principal representative classes of phylum Coelenterata.
- Study of principal representative classes of phylum Platyhelminthes.

Books Recommended

1. Hickman, C.P., Roberts, L.S. and Larson, A. Integrated Principles of Zoology, 11th Edition (International), 2004. Singapore: McGraw Hill.
2. Miller, S.A. and Harley, J.B. Zoology, 5th Edition (International), 2002. Singapore: McGraw Hill.

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3. Pechenik, J.A. Biology of invertebrates, 4th Edition (International), 2000. Singapore: McGraw Hill.
4. Kent, G.C. and Miller, S. Comparative Anatomy of vertebrates. 2001. New York: McGraw Hill
5. Hickman, C.P. and Kats, H.L. Laboratory Studies in integrated principles of Zoology. 2000. Singapore: McGraw Hill

COURSE TITLE:	**CHEMISTRY-I**
COURSE CODE:	**CHEM-310**
CREDIT HOURS:	**03**

Course Objectives:

- Students will acquire knowledge about the key introductory concepts of chemical bonding, acid-base chemistry and chemical equilibrium.

Course Contents:

- **Chemical Bonding**

Types of chemical bonding, ionic and covalent bonding, localized bond approach, theories of chemical bonding, valence bond theory (VBT), hybridization and resonance, prediction of molecular shapes using Valence Shell Electron Pair Repulsion (VSEPR) theory, molecular orbital theory (MOT) applied to diatomic molecules, delocalized approach to bonding, bonding in electron deficient compounds, hydrogen bonding.

- **Acids and Bases**

Brief concepts of chemical equilibrium, acids and bases including soft and hard acids and bases (SHAB), concept of relative strength of acids and bases, significance of pH, pKa, pKb and buffer solutions, theory of indicators, solubility, solubility product, common ion effect and their industrial applications.

- **Chemical Equilibrium**

General equilibrium expressions, reaction quotients, examples of equilibrium reactions in solid, liquid and gas phases, extent of reactions and equilibrium constants, Gibbs energies of formation and calculations of equilibrium constants, effect of temperature and pressure on the equilibrium constant, Van't Hoff equation, Le-Chatelier's principle.

- **Practical Chemistry-I**
- Volumetric Titration Calculations.
- Use of pH meter.
- Use of conductivity meter.

Recommended Books:

1. Cotton, F. A.; Wilkinson, G. Basic Inorganic Chemistry, 3rd ed., Wiley, New York, **1995.**
2. Atkins, P. and Paula, J. D., Atkin's Physical Chemistry, 9th ed., Oxford University Press, **2010**.
3. Miessler, G. L.; Tarr, D.A., Inorganic Chemistry, Prentice-Hall International, New Jersey, USA, **1991**.

COURSE TITLE:	**PHYSICS-I**

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COURSE CODE:	**PHY-313**
CREDIT HOURS:	**03**

Objectives

The main objectives of this course are: to provide students with a thorough understanding of the basic concepts of physics and the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis. To instruct students of the fundamental laws of physics and the application of scientific data, concepts, and models for use in the natural sciences and real world situations. To provide students with problem solving skills by an approach that describes physical phenomena with relevant mathematical models and formulae.

Course Contents

Vector: Vector notation, vector addition, vectors in the Cartesian coordinate system, scalar product (of two vectors) vector product (of two vectors), scalar of triple product, vector triple product, gradient of a scalar, divergence of a vector, divergence theorem and Stock's theorem; conservation of energy: concept of conservation laws, conservation of energy, worked and kinetic energy, power, conservation forces, rotational energy, potential energy in an electric and gravitational field; dynamics of rigid bodies, center of mass, conservation of angular momentum, equation of motion of rotating body, moment of inertia, perpendicular axes and parallel axis theorems; calculation of moment of inertia for a disc and solid sphere; Euler's theorem, Gyroscope Coriolis forces; Inverse Square Law of forces: Newton laws, forces, Newton law of Universal Gravitation b/w point mass and solid spheres, Kepler's laws, satellite in circular orbit escape velocity.

Lab:

1. To find Diameter of cylindrical objects using Vernier Caliper
2. To find Diameter of spherical objects using screw gauge
3. To find Weight of on object with gravity by using expansion of helical spring
4. To find Unknown weight using Gravesend's apparatus

Recommended Books

1. Fundamental of Physics by Jearl Walker, Holiday & Resnick, 10th Edition, Wiley
2. Physics I Practice Problems for Dummies (+ Free Online Practice) by Consumer Dummies. 2015. ISBN 978-1-188-85327-6.
3. Physics I: Mechanics, Waves, and Heat by Michael Thackston. 10th Editiion. Tavenner Publishing Company, 2013. ISBN 193743558X, 9781937435585
4. Physics I: For BPUT by Dr. Mani Naidu. Pearson Education India, 2011. ISBN813179878X, 9788131798782.

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Interdisciplinary/ Allied Courses (Please select 4 Course in entire Degree)

S.NO	COURSE CODE	COURSE TITLE	CREDIT HOURS
1.	MGT-311	Financial Accounting-I	03
2.	MGT-313	Principles to Marketing	03
3.	MGT-322	Principles of Management	03
4.	MGT-423	Organizational Behavior	03
5.	MGT-412	Human Resource Management	03
6.	MGT-513	Financial Management	03
7.	MGT-514	Cost Accounting	03
8.	MGT-611	Business Law	03
9.	COM-311	Fundamental of Commerce	03
10.	COM-424	Taxation	03
11.	FIN-623	Islamic Banking and Finance	03
12.	GEOL-567	Introduction to Economic Geology of Pakistan	03

COURSE TITLE: PRINCIPLES OF MARKETING
COURSE CODE: MGT-313
CREDIT HOURS: 03

COURSE DESCRIPTION/OBJECTIVE

This course is designed to introduce foundations of marketing as they relate to the whole business enterprise. This course will focus on developing an understanding of key marketing concepts. The objective of this course, specifically, is to enhance the conceptual knowledge of marketing as applicable to decision making process with a focus on tactical marketing mix decisions. Further it will provide the student with a comprehensive framework to evaluate marketing decisions and to create successful marketing initiatives. The course, will therefore, provide an understanding of the principles of marketing in relation to the product and services including the planning process, organizing the marketing functions, implementing the marketing decisions keeping in mind the ethical, legal and societal consideration.

LEARNING OUTCOMES

By the end of this course it is expected that the student will be able:

1. Understand the marketplace and the consumers.
2. Understand the elements in marketing mix and their application in marketing decisions.
3. Outline the functions of marketing communication.
4. Discuss social responsibility and ethics in marketing.
5. Understand the importance of customer relationship in marketing and the creation of customer value.

COURSE CONTENTS

Week 01 INTRODUCTION TO MARKETING

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

Week 02 MARKETING ENVIRONMENTS

- The Marketing environment

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- Macro environment
- Micro environment
- Environmental scanning and monitoring

Week 03 MARKETING & STRATEGY

- Strategic planning
- Strategic marketing planning
- Forecasting marketing demand

Week 04 MARKETING DECISIONS

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

Week 05 CONSUMER BEHAVIOUR

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

Week 06 MARKET SEGMENTATION AND TARGETING

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

Week 07 PRODUCTS AND SERVICES

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

Week 08 PRODUCT DEVELOPMENT AND LIFE CYCLE

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

MID-TERM EXAMINATION

Week 09 PRICING

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

Week 10 SETTING THE PRICE AND RELATING STRATEGIES

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

Week 11 PRICING TECHNIQUES AND THEIR APPLICATIONS

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

Week 12 DISTRIBUTION

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

Week 13 PROMOTION

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

Week 14 ADVERTISEMENT AND PUBLICITY

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

Week 15 INTRODUCTION to E-BUSINESS

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

Week 16

- Conclusion Session
- Final Exam

RECOMMENDED TEXT BOOKS

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

COURSE TITLE:	**ORGANIZATIONAL BEHAVIOR**
COURSE CODE:	**MGT-423**
CREDIT HOURS:	**03**

COURSE DESCRIPTION/OBJECTIVE

Organizational behavior (OB) is an interdisciplinary field drawing from numerous disciplines including psychology, sociology, anthropology, economics, organization theory, statistics, and many others. Effective management of human resources within organizations requires an understanding of various behavior and processes. Managers need to know why people behave as they do in relation to their jobs, their work groups and their organizations. This knowledge of individuals' perceptions, motivational attitudes and behavior will enable managers to not only understand themselves better, but also to adopt appropriate managerial policies and leadership styles to increase their effectiveness. The focus of instruction will move progressively through the individual, group and organizational levels of behavior and will examine the interrelationships of behavioral phenomena among these levels. Additionally, concepts such as motivation, communication and leadership and their relevance to organizational behavior will be examined in detail. The course is also designed to help the students understand if Western Organizational Behavioral theories and practices have any relevance to the local settings. The course will also discuss the Islamic perspective of understanding and directing human behavior in a specific direction.

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INDENTED LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Understand the components of individual behavior and group behaviors in the organizational context.

2. Understand the relevance of the OB theories and practices, emphasized by Western texts, in local settings.

3. Understand the Islamic perspective of understanding and directing human behaviour towards achievement of goals.

4. Understand the causes of job dissatisfaction and stress as well as methods of improving job satisfaction and dealing with stress.

5. Analyze the impact of individuals and team behavior on organizational productivity

6. Evaluate the impact of organizational structure, design, culture and change

7. Synthesize various theories of motivation and leadership and understand their application to workplace.

COURSE CONTENTS

Week 01

- What is Organizational Behavior
- Importance of organizational behavior

Week 02

- Foundations of Individual Behavior:
- Biographical Characteristics, Ability, Learning

Week 03

- Organizational behavior from Islamic and indigenous perspective
- Understanding human psychology through the lenses of Quran and Sunnah

Week 04

- Attitudes and Job Satisfaction
- Types of attitudes
- Types of behaviors

Week 05

- Perception and Individual Decision Making
- Why perception is important
- Types of decision making
- Biases and errors in decision making

Week 06

- Motivation concept
- Content theories of Motivational
- Process theories of motivation

Week 07

- Motivation: from concept to application
- Applying motivation concepts for designing reward system Emotions and Moods

Week 08

MID-TERM EXAMINATION

Week 09

- Foundations of Group Behavior
- Groups in organization

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Week 10
- Basic Approaches to Leadership
- Trait theories
- Behavioral theories

Week 11
- Contemporary Issues in Leadership

Week 12
- Power and politics
- Types and sources of power
- Politics in organizations

Week 13
- Conflict and negotiation
- Types of conflicts

Week 14
- Functions of organization structure
- Types of organizational structure
- Organizational structure and its impact on individuals and groups

Week 15
- Organizational culture
- Organizational culture and individual behavior

Week 16
- Conclusion Session
- Project/Presentation

RECOMMENDED BOOKS

1. Robbins, P. S., & Judge, T. A. (2009). **Organizational Behavior**. 13th ed.
2. Organizational Behavio Fred Lauthans, McGraw Hill Publishers, (8th Edition Irwin Latest Edition).
3. Robert Kriether, and AnnlgeloKinick,, Irwin McGraw Hill Publisher, "Organizational Behavior".

COURSE TITLE:	**HUMAN RESOURCE MANAGEMENT**
COURSE CODE:	**MGT-412**
CREDIT HOURS:	**03**

COURSE DESCRIPTION

This course is basically designed to provide students the basic understanding of key HRM functions, which include HR planning, recruitment & selection, compensation, performance evaluation, and training & development. Since human resource provides a competitive advantage that ultimately has a vital role in success and effectiveness of any organization, this course emphasizes on the understanding of the basic concepts of managing human resource and their applications in today‟s organizations. The course is designed to help the students understand if western human resource management theories and practices have any relevance to the local settings. The course will also discuss the Islamic perspective of managing human resource. It will shed light on the basic tenets of human resource management given by Qura‟n and Sunnah. The students will also be encouraged to compare and contrast the human resource practices suggested in their text books and the practices critical for achieving success from indigenous perspective.

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INTENDED LEARNING OUTCOMES

At the end of this course, students should be able to:

1. Demonstrate an in-depth knowledge of the activities and decisions that inform the employment relationship and management including recruitment, selection, training, health and safety, employment laws, motivation, and productivity of employees.

2. Understand the relevance of the HRM theories and practices, developed in Western settings, in indigenous cultures.

3. Develop and design different forms and memos for recruitment, selection, TNA and performance appraisal of employees.

4. Understand the Islamic perspective of managing human resource.

5. Demonstrate and assess leadership in a professional context, by selecting and appraising appropriate styles for situations, and contributing and discussing relevant expertise, leasing with and assessing professional colleagues, and managing and evaluating a supporting team.

6. Identify and discuss ethical implications of situations and decisions, and develop appropriate professional stances.

7. Participate in selection of personnel using psychometric assessment techniques.

8. Conduct internal research on HR-related problems at work, and communicate results effectively to colleagues and peers.

9. Understand the difference between HRM theories, their relevance and application from indigenous context.

COURSE CONTENTS

Week 01 Introduction

- Meeting present human resource requirements
- What is HRM
- Why HRM is important

Week 02

- Emerging Human resource management challenges.
- Trends in HRM
- Global vs local HRM practices

Week 03

- HRM from Islamic and indigenous perspective
- Basic Islamic philosophy of managing human resource

Week 04

- Conducting Job analysis.
- HR Planning
- Job Description
- Job Specification

Week 05

- Staffing
- Recruiting and selecting employees
- Recruitment techniques
- Sources of recruitment
- Selection tests and Interviewing techniques

Week 06

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- Employee development
- Performance appraisals
- Performance management

Week 07

- Training and development
- Training the employees
- Types of training
- Technique of training

Week 08

- MID-TERM EXAMINATION

Week 09

- Developing careers
- Career growth

Week 10

- Project Description and discussion

Week 11

- Compensations
- Managing compensation
- Types of compensation

Week 12

- Rewarding performance
- Pay for Performance

Week 13

- Designing and administering benefits
- Types of benefits

Week 14

- Employee relations

Week 15

- Project Presentations

Week 16

- Conclusion Session
  Terminal Exam

RECOMMENDED BOOKS

1. By Luis R. Gomez Mejia, David B. Balkin, Robert L. Cardy **Managing Human Resources.** (Fourth ed.)
2. William B. Werther & Keith Davis "Human Resource &Personnel"McGrawHill.Bernardin& Russell, McGraw Hill.(Latest Edition)
3. Fred Luthans.Organizational Behavior McGraw Hill, (Latest Edition)
4. Organizational Behavior, Robert Kreitner&Angelokinicki , Latest Edition, IR

COURSE TITLE:	**FINANCIAL MANAGEMENT**
COURSE CODE:	**MGT-513**
CREDIT HOURS:	**03**

COURSE DESCRIPTION

The module aims at building competence in corporate finance further by extending the coverage in Business Finance module to include three more of the finance functions –

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financial planning and control, working capital management and financing sources. It continues to emphasize on strategic decision making techniques that best serve the interests of shareholders, which is to maximize the value of the company.

INDENTED LEARNING OUTCOMES

At the end on this course the student will be able to understand:

1. Role of financial planning and control– financial forecasting and cash budgeting tools – in planning for the firm's short term financial requirements
2. Working capital and its components, applications of different techniques that managers can use to manage various aspects of working capital cash and liquidity, credit and receivables, inventories, etc.
3. Short term sources of financing
4. Long term financing –venture capital, equity, debentures etc.
5. Different theories of capital structure, their predictions about optimal capital structure and the limitations of using debt in the firms‟ capital structure

COURSE CONTENTS

Week 01

- Meaning and Scope of Financial Management.
- Finance and financial management
- Scope of Financial management
- Business organizations
- Organization of the finance function
- Finance management vs. other managerial functions

Week 02

- The Finance manager and the financial environment
- Financial markets
- Financial institutions
- The roles of the finance manager
- Goals of the firm
- Agency problems and their mitigation

Week 03 & 04

- "Time Value of Money''
- Calculate the future value (FV) or present value (PV) of a single sum of money;
- Calculate the interest rate or time period for single-sum problems;
- Calculate the FV or PV of an annuity and an annuity due;
- Calculate the payments, interest rate, or time period for annuity and annuity-due problems.
- Calculate the value, cash flow, or interest rate in a perpetuity problem;
- Calculate the FV or PV of a series of uneven cash flows (i.e., compound or discount the Cash flows);
- Adapt all FV and PV calculations to other-than-annual compounding periods;
- Compute the solution for various time value of money problems.
- "Bond and Their Valuation''
- Who Issues Bonds, Key Characteristics of Bonds
- Bond Valuation, Bond Yields
- Bonds with Semiannual Coupons
- Assessing the Riskiness of a Bond

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- Default Risk, Bond Markets
- **Week 05**
- "Share and Their Valuation''
- Legal Rights and Privileges of Common Stockholders
- Types of Ordinary Stock
- The Market for Ordinary Stock
- Ordinary Stock Valuation
- Share Market Equilibrium
- Actual Share Prices and Returns
- Preferred Shares
- **Week 06**
- "Risk and Return''
- Stand Alone Risk
- The Trade Off between Risk and Return
- Risk in a Portfolio Context
- The Relationship between Risk and Rates of Return
- Physical Assets versus Securities
- Some Concerns about Beta and the CAMP
- Volatility Versus Risk
- **Week 07**
- INVESTMENT APPRAISALS
- Types of investment projects
- Investment process
- Non-discounted appraisal techniques
- Discounted Cash flow techniques
- A comparison of the NPV and the IRR methods

Week 08

- "Analysis of Cash Flows''
- The student should be able to
- Explain the relevance of cash flows to analyzing business activities;
- Describe the elements of operating cash flows;
- Describe the elements of investing cash flows;
- Describe the elements of financing cash flows;
- Classify a particular item as an operating cash flow, an investing cash flow, or a Financing cash flow;
- Compute, explain, and interpret a statement of cash flows, using the direct method and the indirect method;
- Compute free cash flow.

Week 09

- "Analysis of Inventories''
- The student should be able to
- compute ending inventory balances and cost of goods sold using the LIFO, FIFO, and average cost methods to account for product inventory;

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- Explain the usefulness of inventory and cost-of-goods-sold data provided by the LIFO, FIFO, and average cost methods when prices are stable versus when prices are rising;
- Discuss the impact of LIFO and FIFO (in periods of rising prices and stable or increasing inventory quantities) on a company's cost of goods sold, income, cash flow, and working capital;
- Describe the effects of adjustment from LIFO to FIFO on inventory balances, cost of goods sold, and income;
- Compute and describe the effects of the choice of inventory method on profitability, liquidity, activity, and solvency ratios;
- Discuss the two reasons why a LIFO reserve might decline during a period and
- Discuss the implications of such a decline for financial analysis.

Week 10

- "The Investment Setting''
- The student should be able to
- Calculate the holding-period return;
- Calculate the holding-period yield; ne
- Calculate both the arithmetic mean return and the geometric mean return;
- Calculate the expected return;
- Calculate the variance and standard deviation of return;
- Calculate the coefficient of variation for an investment;
- Calculate the expected rate of return for a stock or a stock market series, using Estimates of ending values and dividend payments.

Week 11

- "The Cost of Capital
- The student should be able to
- Explain why the cost of capital used in capital budgeting should be a weighted average of the costs of various types of capital the company uses and not the cost of the specific financing used to fund a particular project;
- Define and calculate (1) the component cost of debt, (2) the component cost of preferred stock, (3) the component cost of retained earnings (three different methods), and (4) the component cost of newly issued stock or external equity; define the target (optimal) capital structure;
- Define and calculate a company's weighted-average cost of capital.

Week 12

- "The Basics of Capital Budgeting''
- The student should be able to
- define capital budgeting;
- describe and calculate four methods used to evaluate capital projects: payback period, discounted payback period, net present value (NPV), and internal rate of return (IRR);
- explain the NPV profile;
- explain the relative advantages and disadvantages of the NPV and IRR methods,

Week 13

- "Cash Flow Estimation and Other Topics in Capital Budgeting''

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- The student should be able to
- Distinguish between cash flows and accounting profits;
- Define the following terms and discuss their relevance to capital budgeting:
- incremental cash flow, sunk cost, opportunity cost, externality, and cannibalization;
- Define an expansion project and a replacement project;
- Determine by NPV analysis whether a replacement project should be undertaken;
- Define initial investment outlay, operating cash flow over a project's life, and terminal-year cash flow, and compute each measure for an expansion project and a replacement project;
- Compare two projects with unequal lives, using both the replacement chain and equivalent annual annuity approaches;
- Discuss the effects of inflation on capital budgeting analysis.

Week 14

- "Risk Analysis and the Optimal Capital Budget''
- The student should be able to
- Distinguish among three types of project risk: stand-alone, corporate, and market;
- Distinguish among sensitivity analysis, scenario analysis, and Monte Carlo simulation as risk analysis techniques;
- Describe how the security market line is used in the capital budgeting process;
- Describe the pure play and accounting beta methods for estimating individual project betas

Week 15

- "Capital Structure and
- The student should be able to
- Define target capital structure and optimal capital structure;
- Describe, and state the impact of changes in, factors that influence a company's capital structure decision;
- Explain business risk and financial risk and discuss factors that influence each risk;
- Explain and calculate the effects of changes in sales or earnings before interest and taxes (EBIT) on earnings per share for companies with differing amounts of debt financing;
- Define operating leverage and explain how it affects a project's or company's expected rate of return;
- Calculate the breakeven quantity of sales and determine the firm's gain or loss at various sales levels;
- Define financial leverage;
- Calculate degree of operating leverage, degree of financial leverage, and degree of total leverage;
- Describe the relationship between financial leverage and financial risk;
- Discuss why the use of greater amounts of debt in the capital structure can raise both the cost of debt and the cost of equity capital;
- Describe how changes in the use of debt can cause changes in the company's earnings per share and in the stock price;

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- Distinguish between the value of a company and the value of the company's common stock;
- Explain the effect of taxes and bankruptcy costs on the cost of capital, the optimal capital structure, and the Modigliani and Miller (MM) capital structure irrelevance proposition;
- Compare the MM capital structure irrelevance proposition and the trade-off theory of leverage;
- Describe how a company signals its prospects through its financing choices.

Week 16

- Financial forecasting
- Keeping Track of forecasts
- Sales Forecast
- Financial Statement Forecasting: Constant Ratio Method
- The AFN Formula
- Forecasting Financial Requirements When the Balance Sheet Ratios Are Subject to Change
- Other Techniques for Forecasting Financial Statements
- Computerized Financial Planning Models

Week 17

- Managing Cure Net Assets
- Working Capital Terminology
- Alternative Current Asset Investment Policies

Week 18

- Financing current Assets
- Sound Working Capital Requires Appropriate Financing
- Alternative Current Asset Financing Policies
- Advantages and Disadvantages of Short- Term Financing
- Accruals
- Account Payable (Trade Credit)
- Short-Term Bank Loans
- The Cost of Bank Loans
- Choosing a Bank
- Commercial Paper
- Use in short-Term Financing

RECOMMENDED BOOKS

1. Ross, S. A., Westerfield, R. W. & Jordan, B. D. (2006) Fundamentals of corporate finance. 7th edition. New York: McGraw Hill
2. Eugene F. Brigham: Fundamentals of Financial Management
3. Jones, Financial Management
4. White, Sondhi and Fried, Analysis of Financial Statements

COURSE TITLE:	**COST ACCOUNTING**
COURSE CODE:	**MGT-514**
CREDIT HOURS:	**03**

COURSE DESCRIPTION/OBJECTIVE

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The Course deals with examining Cost Accounting as a tool for providing information for manufacturing, internal reporting, external reporting as well as for managerial decision making. The broad course objectives are to help students to understand the central concepts of Cost Accounting, the methods of conducting data analysis preparation of reports for managerial decision making.

LEARNING OUTCOMES

After studying this course student will be able to understand:

1. The importance of Cost Accounting as a first step in the Manufacturing process.
2. Cost Accounting and explain its purpose within an organization.
3. The steps involved in the Accumulation of Total Cost in different departments.
4. Financial accounting and Cost Accounting.
5. Cost data for the decision making of the higher management.
6. Product costing preparation and process costing analysis.
7. Cost of production and cost of goods sold statements for onward reporting to financial statements.

COURSE CONTENTS

Week 01

- Cost Accounting Concepts and Objectives.

Week 02

- Financial Statements The bases for planning and control

Week 03

- Costs: Concepts, Uses and Classification

Week 04-06

- Job Order Costing, Process Costing:

Week 07-09

- Planning and Control of Factory Overhead.

Week 10

- Joint and byproduct casting.

Week 11

- Planning and Control of Materials.

Week 12

- Planning and Control of Labor.

Week 13

- Value Cost and Profit Analysis.

Week 14-15

- Differential Cost Analysis

Week 16

Project/ Presentations

TEXT BOOKS:

1. Matz Usry latest Edition, Cost Accounting: Planning and Control
2. Matz, Hammer Usry (1985) 9th edition Cost Accounting South-western Publishing Co

COURSE TITLE:	**FUNDAMENTAL OF COMMERCE**
COURSE CODE:	**COM-311**
CREDIT HOURS:	**03**

Course Objectives:

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This course will enable the students to understand the nature and importance of business, the formation and the functions of various business organizations.

Week 01: Introduction to Business:

- Definition of business and its objectives.
- The concept of entrepreneur, its functions and qualities of good entrepreneur.
- Industry, its meanings and types.
- Definition and Scope of Commerce.
- Meaning and basic principles of business organization.
- Common features of business organization.

Week 02: Sole Proprietorship:

- Meaning/Definition of Sole Proprietorship
- Features of Sole Proprietorship
- Advantages and Disadvantages of Sole Proprietorship

Week 03 & 04: Partnership:

- Definition of Partnership
- Features of Partnership
- Merits and Demerits of Partnership
- Kinds of Partnership
- Partnership Agreement: Its contents & Importance
- Registration of Firms and its benefits
- Kinds of Partners
- Dissolution of Partnership versus that of a Firm
- Reasons and ways of dissolution of a firm

Week 05, 06, 07 & 08: Joint Stock Company (JSC):

- Definition of Joint Stock Company
- Features of Joint Stock Company
- Types of Joint Stock Companies.
  i. Limited Company.
  ii. Public Limited Company.
  iii. Private Limited Company.
  iv. Unlimited Company.
  v. Guarantee Limited Company.
- Formation of Joint Stock Company.

a) Documents to be furnished for Incorporation.
  i. Memorandum of Association.
  ii. Articles of Association.

b) Certificate of Incorporation.

- Documents to be furnished after Incorporation.
  i. Prospectus
  ii. Statement in lieu of Prospectus.
  iii. Certificate of Commencement of Business.

ii) Advantages and Disadvantages of Joint Stock Company.
iii) Difference between Partnership and Joint Stock Company.
iv) Financing of Joint Stock Company.

c) Types of Capital.

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i. Fixed Capital.
ii. Working Capital.
iii. Share Capital.

d) Sources of Raising Funds.
i. Shares: Definition & Procedure of Allotment.
ii. Debentures: Definition & Procedure of Allotment.
iii. Lending Institutions (introduction only)
iv. Retained Earnings/Un-appropriated profits
v. Dividends.

e) Definition.
f) Types of Dividends.
g) Rules Regarding issuance of dividends.
h) Company Management.
i) Share Holders: Definition, rights and liabilities
j) Directors.
i. Board of Directors: Qualification, appointment, powers, duties and liabilities
ii. Managing Director/Chief Executive Officer: Appointment and terms of appointment

a) Secretary of Joint Stock Company: Appointment and duties
b) Company Meetings.
b. Statutory Meeting: Definition, procedures and business conduct at statutory meeting
c. Annual General Meeting (AGM): Definition, procedures, business conduct and report of AGM
d. Extra Ordinary Meeting: Definition, purposes and procedure of conduct
e. Meeting of Board of Directors: Definition, procedure and conduct
v) Winding up of Joint Stock Company: Meaning and modes of winding up

Week 09: Business Combinations:
i) Definition of Business Combination
ii) Causes of Business Combination
iii) Purpose of Business Combination

- Types of Combinations: Horizontal, Vertical, Diagonal and Circular.
- Advantages and Disadvantages of Combination.

Week 10: Insurance:
i) Definition of Insurance
ii) Principles of Contract of Insurance
i. UmberrimaeFeidi
ii. Insurable Interest
iii. Indemnity Principle
iii) Types of Insurance.
a. Marine Insurance
b. Life Insurance
a. Fire Insurance
i) Advantages and Disadvantages of Insurance

Week 11: Customs & Excise:
i) Definition of duty
ii) Objectives of duty

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ii) Types of duty
   a. Custom duty
   b. Excise duty

Week 12 & 13: Stock Exchange:

i) Meaning of Stock Exchange
iii) Functions Stock Exchange
i) Procedure of dealing at Stock Exchange
ii) Causes of fluctuation in security prices

Week 14 & 15: Securities and Exchange Commission of Pakistan (SECP):

i) Definition of SECP
ii) Structure/Management of SECP
iii) Powers and Functions of SECP

Week 16: Central Depositary Company (CDC):

i) Definition of CDC
ii) Objectives of CDC
ii) Structure/Management of CDC
i) Functions of CDC

Recommended Texts:

Madura, J. (2010). *Introduction to Business.* Paradigm Pub.
Ali, M.H. (latest Edition). *Business Organization*. Lahore.
Nasir, M. S. (latest Edition). *Introduction to Business*. Lahore.
Companies Ordinance 1984.
Securities and Exchange Commission of Pakistan Act, 1997.
Central Depositors Act, 1997

COURSE TITLE:	**TAXATION**
COURSE CODE:	**COM-424**
CREDIT HOURS:	**03**

Course Objectives:

The course is designed to (i) familiarize the students with the Income and Sales Tax Laws in Pakistan; (ii) introduce to students the important elements and aspects of tax system and authorities and their limits; and (iii) equip the students with necessary skills to deal with the situations concerning the field of taxation.

Week 1

- Introduction; Nature and Importance of Tax; Objectives of Taxation; Definitions; Agricultural Income; Assesse; Assessment Year, Business; Capital Asset; Company; Dividend; Income Year; Income; Person; Principal Officer; Registered Firm; Return of Total Income; Resident/Non-resident; Total Income; Total World Income;

Week 2

- Income Exempt from Tax; Income Exempt from Tax and not to be included in Total Income; Income Exempt from Tax but included in Total Income

Week 3

- Salary; Definition; Features of Salary Income; Scope of Salary Income; Taxation of Perquisites; Provident Fund: Types and Treatment; Computation of Salary Income; Calculation of Gross Tax Payable; Calculation of Tax Payable; Relief

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and Allowances; Donations for Charitable Purposes; Legal Expenditure; Investment Allowances; Benevolent Fund Contribution; Group Insurance Contribution; Cases of Marginal Relief

Week 4

- Interest on Securities; Definition; Conditions for Taxability of Interest; Scope of Interest on Securities; Allowable Deductions; Tax Free Securities; Bond Washing Transactions; Grossing Up of Income from Interest on Securities

Week 5

- Income from Property; Definition; Scope of Income from House Property; Annual Letting Value; Allowable Deductions; Liability in Case of Co-owners; Property Exempt from Tax; Taxation of Un-adjustable Advance or Pugree Received by Owner; Taxation of Pugree Received by Tenant

Week 6

- Income from Business, Profession; Taxability of Business and Profession; Scope of Business and Profession; Allowable Deductions; Inadmissible Expenses; Deduction of Head Office Expenditure in the Case of Non-residents

Week 7

- Depreciation; Conditions for Allow-ability of Depreciation; Kinds of Depreciation Allowance

Week 8

- Capital Gains; Definition; Computation; Determination of Cost of Acquisition; Exemption of Capital Gains; Week 9 Income from Other Sources; Income Charged under this Head; Allowable Deductions.

Week 10

- Registration of Firms; Grant of Registration; Cancellation of Registration; Grounds for Refusal of Registration; Privileges of Registered Firm; Assessment of Firms and Partners

Week 11

- Assessment Procedure; Cycle of Assessment; Legal Provisions regarding Filing of Return of Income; Assessment and Its Types; Limitations on Assessment; Payment of Tax; Recovery of Tax; Refund of Tax

Week 12

- Set-off and Carry Forward of Losses; Loss from Source of Income; Set off Losses; Carry Forward of Losses

Week 13&14

- Income Tax Authorities; Central Board of Revenue (CBR); Director General of Inspection; Regional Commissioner of Income Tax; Director General of Investigation and Intelligence; Commissioner Headquarters (Commissioner Survey); Commissioner of Income Tax; Inspecting Additional Commissioner; Inspector of Income Tax; Income Tax Officer; Tax Recovery Officer

Week 15

- Appeals and Revision; Appeal before Income Tax Authorities; Appeal to the Appellate Additional Commissioner; Appeals to High Court and Supreme Court

Week 16

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- Assessment of Individuals; Computation of the following for the individuals; Total Income (earned from any source of income); Taxable Income (on the basis of the above), and Tax Payable

Recommended Texts:

1. Lymer, A., & Oats, L. (2010). Taxation: Policy and Practice, (16th Edition). Fiscal Publications.
2. Kaplow, L. (2011). The Theory of Taxation and Public Economics, (Reprint). Princeton University Press.
3. Lymer, A., & Oats, L. (2013). Taxation: Policy and Practice, (20th Edition). Fiscal Publications.
4. Schreiber, U., & Muller, P. (2013). International Company Taxation: An Introduction to the Legal and Economic Principles. Springer Science & Business Media
5. Saeed, K.A. (2005). Income Tax Law Plus Practical Problems with Solutions. Azeem Academy.
6. Government of Pakistan, Income Tax Ordinance, 2001.
7. Mughal, M.M. (2014-15). Income Tax Principles and Practice Tax Year 2014-15.
8. Mehboob, A. Sheikh. (latestEdition). Taxation.
9. Mughal, Muhammad Muazaam. (latestEdition). Sales Tax. Syed Mobin& Co. Lahore.
10. Mughal, Muhammad Muazzam. (latestEdition). Income Tax-Principles and Practice. Syed Mobin& Co. Lahore.

COURSE TITLE:	**ISLAMIC BANKING AND FINANCE**
COURSE CODE:	**FIN-623**
CREDIT HOURS:	**03**

COURSE DESCRIPTION:

This course provides an understanding of the principles, concepts, and practices of Islamic banking and Finance.

Week 1-2: Introduction to Islamic Finance

- Overview of Islamic finance principles
- Prohibition of interest (Riba) in Islam
- The concept of Shariah-compliance
- Comparison with conventional banking

Week 3-4: Principles of Islamic Economics

- Islamic economic system and its fundamentals
- Concepts of ownership and wealth distribution in Islam
- Zakat, Sadaqah, and their significance
- Economic justice and social welfare in Islamic finance

Week 5-6: Islamic Financial Contracts and Instruments

- Types of Islamic contracts (Mudarabah, Musharakah, Ijarah, Murabaha, etc.)
- Islamic financial instruments (Sukuk, Takaful, Islamic bonds)
- Structuring Shariah-compliant financial transactions
- Case studies on Islamic financial contracts

Week 7-8: Islamic Banking Operations

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- Functions and operations of Islamic banks
- Deposit and financing products in Islamic banking
- Profit and loss sharing mechanisms
- Regulatory frameworks for Islamic banks

Week 9-10: Risk Management in Islamic Finance

- Risk types in Islamic finance
- Risk management techniques in Shariah-compliant finance
- Islamic financial derivatives and their use
- Governance and compliance in risk management

Week 11-12: Legal and Regulatory Framework in Islamic Finance

- Shariah governance and boards in Islamic finance
- Regulatory frameworks and standards (IFSB, AAOIFI)
- Legal challenges and resolutions in Islamic finance
- Global practices and regulatory harmonization

Week 13-14: Ethics and Corporate Social Responsibility in Islamic Finance

- Ethical considerations in Islamic finance
- Corporate social responsibility (CSR) in Islamic banking
- Sustainability and ethical investment in Islamic finance
- Case studies on ethical practices

Week 15-16: Islamic Capital Markets and Investments

- Islamic capital market instruments
- Investment strategies in Shariah-compliant finance
- Islamic asset management and wealth planning
- Market trends and future outlook

Week 17-18: Final Exam and Course Wrap-up

- Comprehensive review of key concepts
- Final examination
- Course recap and summary
- Emerging trends in Islamic banking and finance

Recommended Reference Books:

1. "Introduction to Islamic Banking and Finance: Principles and Practice" by Kabir Hassan and Rasem N. Kayed
2. "Understanding Islamic Finance" by Muhammad Ayub
3. "Islamic Finance: Principles and Practice" by Hans Visser
4. "Islamic Capital Markets and Products: Managing Capital and Liquidity Requirements Under Basel III" by Simon Archer and Rifaat Ahmed Abdel Karim
5. "Islamic Banking and Finance: An Introduction to Risk Management in Islamic Banks" by Tariq Alrifai

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