

Forman Christian College

(A Chartered University)



Estd 1864

Revised Course Atlas (Freshmen)
Spring 2012 Semester

COURSE ATLAS
SPRING 2012 SEMESTER

NOTE: It is the student’s responsibility to read the atlas carefully. Not knowing this information is **NOT** an excuse. Failure to meet the prerequisites will result in withdrawal from the class.

<u>C</u>	<u>O</u>	<u>N</u>	<u>T</u>	<u>E</u>	<u>N</u>	<u>T</u>	<u>S</u>
1.	Biological Sciences						4
2.	Business Management						7
3.	Chemistry						8
4.	Computer Science / IT						10
5.	Economics						13
6.	Education						15
7.	English						16
8.	Environmental Sciences						19
9.	Geography						20
10.	Health & Physical Education						21
11.	History and Pakistan Studies						22
12.	Mass Communication						23
13.	Mathematics						25
14.	Philosophy						26
15.	Physics						27
16.	Political Science						29
17.	Psychology						30
18.	Religious Studies						32
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20.	Statistics						35
21.	Urdu						37

The General Education Distribution Requirement for FRESHMEN

Students must complete the designated number of credit hours each of the four divisions of the curriculum listed below.

	Course	Number of courses	Credit Hours
a.	Humanities	6	18
	1) Written and Oral Communications	4	12
	2) Islamic Studies / Ethics	1	3
	3) Humanities and Arts	1	3
b.	Social or Behavioral Sciences	3	9
	1) Pakistan Studies	1	3
	2) Others Social Science or Behavioral Science Courses	2	6
c.	Science and Mathematics	5	17 or 18
	1) Must include at least two science courses (Not from the same discipline)	2	8
	2) Must include at least one Mathematics Course	1	3
	3) Must include at least one Computer Science Course	1	3
	4) One other course in either Science, Math, Statistics, Logic or Computer Science	1	3 or 4
d.	University 100: Foundations of University Education	1	3 or 4
	Total	15	47 or 48

a) HUMANITIES (6 COURSES 18 CREDITS)

All students must complete the following **FOUR** courses in Written and Oral Communications.

Written communication

- ENGL 101:** Written and Grammar
- ENGL 103:** Advanced Writing Skills
- URDU 101:** Communicative Urdu

Oral communication

- MCOM 100:** Fundamentals of Speech

Students who believe that they have the knowledge and skills necessary to pass the competency examinations in written Urdu or written English or Spoken English may take the competency examinations at the beginning of the Freshman year. If they pass the competency examinations they will be exempted from the relevant specific required course and they may, instead, take advanced courses in those areas.

A student must take **ONE** course in Islamic Studies/Ethics plus **ONE** course selected from the following disciplines. **English, Urdu, History, Religious studies, Philosophy, Foreign Languages, Arts, Music, Drama and Mass Communications.**
SOCIAL AND BEHAVIORAL SCIENCE (3 COURSES-9 CREDITS)

A student must take **ONE** Pakistan Studies course and at least, **TWO** Courses from the following disciplines: **Economics, Education, Geography, Pakistan Studies, Political Science, Anthropology, Psychology and Sociology.**

SCIENCE AND MATHEMATICS (5 COURSES 17 OR 18 CREDITS)

Students must take

- Must include at least **TWO Science courses** (Not from the same discipline)
- Must include at least **ONE Mathematics Course**
- Must include at least **ONE Computer Science Course**
- **ONE** other course in either **Science, Math, Statistics, Logic or Computer Science**

UNIVERSITY 100: FOUNDATIONS OF UNIVERSITY EDUCATION
(1 COURSE-3 CREDITS)

- Prerequisite Lang 110(or exempted from the Language program)
- All entering students must take University 100 during their first semester or after they have finished the LANG program.
- *Transfers with 60 or more credits are exempted.*

BIOLOGICAL SCIENCES

BIOL 100: Introductory Biology

(4 credits)

Only for students who have not studied Biology in higher secondary school or A level or equivalent

The course includes basic concepts of Biology with cell as a building block, its function, reproduction, genetics and inheritance, basic concepts in evolution, ecology and principles of living systems. The course is designed to provide to the non science students an overview of modern Biology and to elucidate its importance in every day life.

Section B	Monday, Wednesday, Friday 2:00	S-410	Dr. A. S. Khan
LAB	Monday 10:00 & 11:00	S-321	
Section C	Tuesday, Thursday 8:00-9:15	S-410	Dr. H. Saeed
LAB	Friday 8:00 & 9:00	S-329	
Section D	Tuesday, Thursday 2:00-3:15	S-410	Dr. H. Saeed
LAB	Wednesday 8:00 & 9:00	S-329	
Section E	Monday, Wednesday, Friday 10:00	S-425	T. S. Khan
LAB	Monday 2:00 & 3:00	S-329	
Section F	Tuesday, Thursday 12:30-1:45	S-416	Dr. W. George
LAB	Friday 2:00 & 3:00	S-341	
Section G	Tuesday, Thursday 9:30-10:45	S-416	U. Mubeen
LAB	Tuesday 11:00 & 12:00	S-321	
Section H	Monday, Wednesday, Friday 9:00	S-417	U. Mubeen
LAB	Monday 2:00 & 3:00	S-321	
Section J	Tuesday, Thursday 11:00-12:15	S-416	Dr. M. R. Siddiqi
LAB	Tuesday 2:00 & 3:00	S-329	

BIOL 102: Introductory Plant Biology

(4 credits)

Only for students who have studied Biology in higher secondary school/A -Level or equivalent

This course covers the structure-function relationship of plants, basic principles of genetics and molecular genetics and Biotechnology as well as its use in modifying plants. Ecosystems, environmental issues and the relevance of flowering plants in human life are also examined.

Section A	Monday, Wednesday, Friday 11:00	S-416	Dr. M. R. Siddiqi
LAB	Monday 8:00 & 9:00	S-331	
Section B	Monday, Wednesday, Friday 9:00	S-410	Dr. M. W. Hussain
LAB	Tuesday 11:00 & 12:00	S-331	

BIOL 105: General Zoology

(4 credits)

Only for students who have studied Biology in higher secondary school/A- Level or equivalent

The structure, functions, ecology and evolution of all major animal groups including invertebrates and chordates. The origin of multicellular forms and basic environmental factors affecting them.

Section A	Monday, Wednesday, Friday 8:00	S-417	Dr. K. Z. Rasib
LAB	Wednesday 10:00 & 11:00	S-341	
Section B	Tuesday, Thursday 8:00-9:15	S-425	Dr. K. Z. Rasib
LAB	Thursday 2:00 & 3:00	S-341	

BIOL 201: Cell Biology

(3 credits)

This course will examine the ultra structure of cell, the cell membrane, cytoskeleton, nucleus, mitochondria, chloroplast, ribosome, dictyosome, vacuole, microbodies and cell surface. Protein synthesis and secretion, chromosomal aberrations, mitosis, meiosis and cell cycle regulation will also be discussed.

<i>Section A</i>	<i>Tuesday, Thursday 12:30-1:20</i>	<i>S-417</i>	<i>Dr. A. Maqbool</i>
<i>LAB</i>	<i>Monday 2:00 & 3:00</i>	<i>S-331</i>	

BIOL 203: General Genetics

(3 credits)

Introduction; concept of gene; Mendelian inheritance; sex-linked inheritance; linkage and crossing over; cytoplasmic inheritance; structure, chemistry, functions and types of DNA and RNA; recombination in viruses, bacteria, fungi and eukaryotes; Operon model; transposable elements; genetic code; variation in chromosomal number and structure; population genetics; problems related to the theoretical course.

<i>Section A</i>	<i>Tuesday, Thursday 11:00-11:50</i>	<i>S-417</i>	<i>Dr. M. Irfan</i>
<i>LAB</i>	<i>Thursday 2:00 & 3:00</i>	<i>S-321</i>	

BIOL 204: Diversity in Animals

(4 credits)

Classification and phylogenetic relationship of various groups of animals, with an overview of all major groups of invertebrates and chordates (general survey of animal kingdom).

<i>Section A</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>S-417</i>	<i>Dr. K. Z. Rasib</i>
<i>LAB</i>	<i>Tuesday 2:00 & 3:00</i>	<i>S-341</i>	

BIOL 205: Biostatistics

(3 credits)

Introduction to statistics including mean, mode, median, standard error and standard deviation, probability and test of significance, correlation, analysis of variance, regression and experimental design.

<i>Section A</i>	<i>Tuesday, Thursday 8:00-8:50</i>	<i>S-433</i>	<i>Dr. S. Butt</i>
<i>LAB</i>	<i>Wednesday 8:00 & 9:00</i>	<i>S-321</i>	

BIOT 201: Introduction to Biotechnology

(3 credits)

Brief history of Biotechnology, different aspects of Biotechnology and its future development as a cornerstone in human welfare.

<i>Section A</i>	<i>Monday, Wednesday 10:00</i>	<i>S-424</i>	<i>Dr. M. Irfan</i>
<i>LAB</i>	<i>Wednesday 8:00 & 9:00</i>	<i>S-331</i>	
<i>Section B</i>	<i>Tuesday, Thursday 8:00-8:50</i>	<i>S-417</i>	<i>T. S. Khan</i>
<i>LAB</i>	<i>Wednesday 2:00 & 3:00</i>	<i>S-321</i>	

BIOT 202: Protoplast, Cell and Tissue Culture

(4 credits)

A brief history of tissue culture technique, plant growth regulators, culture media, microbial contamination and prevention procedures. Plant cell, tissue and organ culture. Animal cell culture. Multiplication and differentiation of cells. Callus, suspension and cell line culture. Isolation, culture and fusion of protoplasts. Application of tissue culture techniques.

<i>Section A</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>S-417</i>	<i>Dr. K. Shoaib</i>
<i>LAB</i>	<i>Tuesday 2:00 & 3:00</i>	<i>S-321</i>	

ENVR 251: Living Green

(3 credits)

This course will identify the key environmental issues such as population explosion, air, water, food, sanitation and climate change etc. Remedies at local and individual level such as sustainable health, sustainable home, sustainable work place and sustainable energy future will be discussed.

<i>Section A</i>	<i>Monday, Friday 8:00</i>	<i>S-410</i>	<i>U. Mubeen</i>
<i>LAB</i>	<i>Wednesday 2:00 & 3:00</i>	<i>S-331</i>	

BUSINESS MANAGEMENT

BUSN 121: Microeconomics

(3 credits)

Fundamentals of economics including price theory and applications, industry and market structure, equilibrium analysis and welfare economics.

<i>Section A</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>E-103</i>	<i>TBD</i>
<i>Section B</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-103</i>	<i>TBD</i>

BUSN 160: Management Communications

(3 credits)

Introduction to verbal and written communication theory and practice, with focus on individual oral and written skills in letter and memo writing, use of emails, presentations and preparing reports.

<i>Section A</i>	<i>Tuesday, Thursday 3:30-4:45</i>	<i>E-025</i>	<i>Z. Bhutta</i>
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BUSN 225: Economic Applications for Business

(3 credits)

Prerequisite: BUSN 121

This course exposes students to fiscal, monetary and regulatory policy frameworks including deregulation and liberalization from a perspective of application of theory to real world practices.

<i>Section A</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>E-025</i>	<i>Dr. M. Murphy</i>
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BUSN 230: Entrepreneurship

(3 credits)

Prerequisite: BUSN 170

This course develops an understanding of entrepreneurship and entrepreneurial skills for successful formation and growth of companies, including topics like team formation, concept generation, design thinking, marketing mix, etc.

<i>Section A</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>E-025</i>	<i>M. Amin</i>
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BUSN 250: Individual & Group Dynamics

(3 credits)

Prerequisite: BUSN 170

Investigates the impact of individuals, groups and structures on behavior within a formal organizational context and applies knowledge to improve the effectiveness of the organization. Concepts include leadership skills, team structures, managing interpersonal relationships and conflicts.

<i>Section A</i>	<i>Tuesday, Thursday 2:00-3:15</i>	<i>E-025</i>	<i>Z. Bhutta</i>
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CHEMISTRY

CHEM 100: Introduction to Chemistry

(3+1 credits)

Only open to students who have not taken Chemistry at the F.Sc. and A-Level

Chemistry as Basic Science, Matter and States of Matter, Classification of elements, Evolution of atomic theory and basic concept of radioactivity with reference to atomic structure, Concept of mole and elementary stoichiometric calculations, acids and basis, elementary redox reactions and electrochemical cells, health safety and environmental aspects of Chemistry.

Section A	Monday, Wednesday, Friday 12:00	S-216	Dr. A. M. Khan
Lab	Tuesday 12:30-1:45	S-148	
Section B	Tuesday, Thursday 11:00-12:15	S-216	S. Azeem
Lab	Friday 10:00 & 11:00	S-138	

CHEM 110: Introduction to Inorganic Chemistry

(3+1 credits)

Prerequisite: F.Sc. or A-Level Chemistry

Introduction to the foundations of Chemistry including electronic structure of atoms, ions and molecules, quantum numbers, periodic classification, chemical bonding and theories i.e. VBT, MOT for simple homonuclear and diatomic heteronuclear molecules, VSEPR theory and shape of molecules, chemical equilibria; acid-base chemistry, redox reactions and electrochemical series.

Section A	Tuesday, Thursday 8:00-9:15	S-216	Dr. M. N. Asghar
Lab	Friday 10:00-11:45	S-148	
Section B	Tuesday, Thursday 2:00-3:15	S-216	S. Azeem
Lab	Wednesday 12:00 - 1:45	S-138	
Section C	Monday, Wednesday, Friday 2:00	S-216	S. Azeem
Lab	Monday 12:00-1:45	S-138	

CHEM 114: Introduction to Organic and Biochemistry

(3+1 credits)

Prerequisite: F.Sc. or A-Level Chemistry

Chemistry of carbon; introduction to functional groups inter-conversion; study of hydrocarbons; study of hydrocarbons including additions to multiple bonds and substitution reactions of benzene; Chemistry of food and its components including carbohydrates, proteins, lipids, vitamins and minerals.

Section A	Tuesday, Thursday 11:00-12:15	S-215	Dr. S. Jelani
Lab	Friday 10:00 & 11:00	S-135	

CHEM 117: Chemistry I

(3+1 credits)

Prerequisite: F.Sc. or A-Level Chemistry

Basic concepts of thermodynamics, thermochemistry, quantum mechanics, and atomic structure. Empirical properties of gases, deviation from ideal behavior, intramolecular forces, physical properties of liquids and solids, packing types and geometry of solids, crystal structure, Bragg's law and its applications, Basic concepts of chemical kinetics, differential and integrated rate laws, order of reactions and molecularity, Arrhenius equation, experimental determination of order of reaction and rate constants, factors affecting rates of reaction, chemical equilibrium and equilibrium constant, surface phenomenon: surface energy, surface tension and its measurement.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>S-216</i>	<i>Dr. A. Y. Khan</i>
<i>Lab</i>	<i>Tuesday 8:00-9:15</i>	<i>S-148</i>	

CHEM 218: Chemistry II

(3+1 credits)

Prerequisite: F.Sc. or A-Level Chemistry

Gases, ideal and non ideal behaviour, kinetic molecular theory of gases, distribution of molecular velocities, mean free path, critical phenomenon, equation of state, Chemical kinetics: Rate laws and mechanism of chemical reactions, theories of reaction rates, unimolecular reactions, complex and chain reactions

<i>Section A</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>S-216</i>	<i>Dr. A. Y. Khan</i>
<i>Lab</i>	<i>Monday 12:00-1:45</i>	<i>S-148</i>	

CHEM 240: Principles of Organic Chemistry

(3+1 credits)

Prerequisite: F.Sc. or A-Level Chemistry

Basic Concepts of organic chemistry like resonance, inductive effect, hyperconjugation and their importance. Isomerism and stereochemistry including conformational analysis; geometric isomerism; stereo specificity, Chemistry of hydroxyl group containing compounds including alcohols, phenols, and ethers and thiols

<i>Section A</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>S-216</i>	<i>Dr. S. Jelani</i>
<i>Lab</i>	<i>Tuesday 11:00-12:15</i>	<i>S-135</i>	

COMPUTER SCIENCE / IT

COMP 102: Programming I

(3 credits) (2+2)

Introduces students to the basic skills of problem solving and programming. It emphasizes problem analysis, algorithm design, program development and testing. It provides a solid foundation in structured design techniques and introduces the object oriented thought process and basic tools.

Section A	Tuesday, Thursday 9:00 - 10:50	S-218	S. Anwar
Section B	Monday, Wednesday 9:00-10:50	S-218	Dr.S.Abbasi

COMP 111: Programming II

(3 credits) (2+2)

Prerequisite: COMP 102

Continues the topics begun in COMP 102, shifting the emphasis to object oriented principles and techniques. Classes, inheritance and class hierarchy and polymorphism are fully explored and basic data structures are introduced. Other topics include simple analysis of algorithms, basic searching and sorting techniques.

Section A	Tuesday, Thursday 11:00 - 12:50	S-218	Dr. I. H. Shah
Section B	Tuesday, Thursday 10:00 - 11:50	S-320	Z. A. Shah

COMP 113: Discrete Mathematics

(3 credits)

Prerequisite: MATH 101 or A-Level or Intermediate Mathematics

Introduces the foundations of discrete mathematics as they apply to Computer Science, focusing on providing a solid theoretical foundation for further work. Further, this course aims to develop understanding and appreciation of the finite nature inherent in most Computer Science problems and structures through study of combinatorial reasoning, Abstract algebra, Iterative procedures, Predicate calculus, Tree and graph structures, Eulerian and Hamiltonian graphs.

Section A	Tuesday, Thursday 9:00-10:15	S-316	N. Sheikh
Section B	Monday, Wednesday, Friday 2:00	S-317	Dr.S.Abbasi

COMP 200: Data Structures and Algorithms

(3 credits) (2+2)

Prerequisite: COMP 111, COMP 113

More sophisticated data structures, along with the algorithms required to manipulate them are introduced. Selection or construction of suitable data structures for a wide range of problems is emphasized, along with the analysis of the efficiency of chosen solutions. Standard problems such as sorting and searching are explored in detail. Students are exposed to the concepts of time and space complexity of computer programs.

Section A	Tuesday, Thursday 9:00-10:50	S-218	B. A. Bajwa
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COMP 206: Hardware Logic and Design

(3 credits) (2+2)

Prerequisite: MATH 101 or A-Level or Intermediate Mathematics

This course is designed to introduce students to the fundamentals of hardware system design, beginning at the digital logic level with bits, binary representations, and basic binary operations. These are represented for hardware purposes using logic gates, and built up into combinational and then sequential logic circuits. Basic functional units are assembled from these circuits, and then combined to provide higher level computing functions. One or more hardware description languages are introduced to allow well structured descriptions of hardware circuitry. Basic elements of some real life architectures are examined.

Section A Monday, Wednesday 12:00-01:50 S-120 TBD

COMP 213: Database Systems

(3 credits) (2+2)

Prerequisite: COMP 200

This course introduces basic concepts of databases, Various data models, Data storage and retrieval techniques and database design techniques. The major emphasis will be on the relational data model the relational algebra as a basis for queries in SQL and normalization techniques to optimize database structure.

Section A Tuesday, Thursday 11:00 - 12:50 S-218 A. H. Zahid

COMP 220: Software Engineering I

(3 credits)

Prerequisite: COMP 111

This course introduces the basics of Software Engineering, the terminologies involved and various principles, methods, tools and techniques used to produce quality software. Two fundamental approaches of software engineering, structural and object oriented, are introduced. Various techniques used for requirements engineering, system/software design, implementation, and testing are introduced. Fundamental issues of software measurement and project management are discussed.

Section A Monday, Wednesday, Friday 11:00 S-317 B. A. Bajwa

CSCS 100: Introduction to Computing

(3 credits)

Not open to students registered in the BS (Computing) program

An introduction to the computer science discipline, Including an introduction to computing environments, general application software, computing hardware, operating systems, desktop publishing, internet, software applications and tools and computer usage concepts; Introducing software engineering and information technology within the broader domain of computing.

Section A	Monday 8:00 & 9:00, Wednesday 8:00	S-319	S. Anwar
Section B	Monday 10:00, Wednesday 9:00 & 10:00	S-319	B. A. Bajwa
Section C	Monday 11:00, Wednesday 11:00 & 12:00	S-319	N. Sheikh
Section D	Monday 12:00 & 1:00, Wednesday 1:00	S-319	Z. A. Shah
Section E	Monday 2:00 & 3:00, Wednesday 2:00	S-319	R. Aden
Section F	Tuesday 1:00-1:50, Thursday 1:00- 2:50	S-319	R. Aden
Section G	Tuesday 10:00-10:50, Thursday 9:00-10:50	S-319	A. Imtiaz
Section H	Tuesday 2:00-3:50, Thursday 3:00-3:50	S-319	Z. A. Shah

CSIT 210: Introduction to Multimedia

(3 credits)

Prerequisite: CSCS 100 or COMP 205

An introduction to multimedia, which covers the different media types and their uses, surveys the range of applications of multimedia, and introduces students to a selection of tools available for the production of multimedia applications. It includes hands-on practice in the production of simple multimedia applications. Accessible to students in a variety of disciplines where multimedia is used

Section A Monday, Wednesday, Friday 10:00

S-219

TBD

ECONOMICS

ECON 100: Basic Economics

(3 credits)

This is a basic course of Economics for all disciplines, which would educate students about micro as well as macro economics. The course shall help students to increase understanding about basic concepts of Economics such as demand, supply, allocation of resources, opportunity cost, national income, inflation and unemployment etc.

Note: Those students who have not studied Economics at FA/FSc or O level/A level, they must take this course before registering Econ 101 and Econ 102. This course is counted towards General Education credits. Economics seniors and juniors are not allowed to register this course.

Section A	Monday, Wednesday, Friday 8:00	E-214	Z. Iqbal
Section B	Monday, Wednesday, Friday 8:00	E-221	Dr. B. Aziz
Section C	Monday, Wednesday, Friday 10:00	E-202	Dr. S. H. Syed
Section D	Tuesday, Thursday 9:30-10:45	E-214	Z. Mall
Section E	Monday, Wednesday, Friday 12:00	E-203	Dr. S. H. Syed
Section F	Monday, Wednesday, Friday 11:00	E-214	S. A. Abbas
Section G	Monday, Wednesday, Friday 2:00-2:50	E-214	Dr. B. Aziz

ECON 101: Microeconomics I

(3 credits)

Microeconomics I is a core course for majoring in Economics. It introduces the students to the basic method and subject matter of microeconomics. The course covers consumer behavior theory; Producer theory; Cost theory; Output and price strategies under perfect and imperfect competition market structure.

Note: An important objective of the course is to provide a base for other courses to be taken for major in Economics.

Section A	Monday, Wednesday, Friday 11:00	E-202	Dr. R. Martin
Section B	Monday, Wednesday, Friday 11:00	E-221	Dr. B. Aziz
Section C	Tuesday, Thursday 9:30-10:45	E-221	U. Hanif
Section D	Tuesday, Thursday 12:30-1:45	E-333	U. Hanif

ECON 102: Macroeconomics

(3 credits)

The primary goal of this course is to introduce key macroeconomics concepts. This course emphasizes national income accounting and determination through Keynesian cross. Consumption, saving and investment theories; Money supply and demand; QTM, inflation and unemployment; And the short period fluctuations in an economy and stabilization policies.

Note: An important objective of the course is to provide a base for other courses to be taken for major in Economics.

Section A	Tuesday, Thursday 11:00-12:15	E-333	S. A. Abbas
Section B	Monday, Wednesday, Friday 8:00	E-333	Dr. R. Aslam
Section C	Monday, Wednesday, Friday 9:00	E-202	A. J. Khan
Section D	Monday, Wednesday, Friday 10:00	E-214	Dr. T. Ahmed

ECON 103: Mathematics for Economists (3 credits)

The nature of mathematical economics; Real number system, Set theory and economics, Comparative static analysis, Linear models and matrix algebra, Tools of algebra and calculus, Application of calculus in economics, Tools of comparative static, Optimization of one and multivariable functions and its economic application and Optimization with constraints.

<i>Section A</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-333</i>	<i>G. Shabir</i>
<i>Section B</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-333</i>	<i>A. Batool</i>

ECON 201: Microeconomics II (3 credits)

Prerequisite: ECON 101 and 103

A continuation of Microeconomics I using mathematical models to analyze consumer theory, producer theory, firm behavior under perfect and imperfect market structure. Input markets with both perfect and imperfect competition. Game theory.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-203</i>	<i>Dr. B. Aziz</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-333</i>	<i>U. Hanif</i>

ECON 202: Macroeconomics II (3 credits)

Prerequisite: ECON 102 and 103

This course emphasizes the Classical and Keynesian economic theory policy; Derivation of AD and AS models and their implication for stabilization policies, Short term and long term inflation-unemployment relationship; Consumption and investment theories and Economic growth, Growth accounting and convergence.

<i>Section A</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-333</i>	<i>S. A. Abbas</i>
<i>Section B</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>E-214</i>	<i>S. A. Abbas</i>

ECON 203: Statistics for Economists (3 credits)

Descriptive statistics, Measurement of central tendency and dispersion, Random variable and discrete and continuous probability distributions, Sampling and sampling distribution, Estimation and confidence interval of small and large sample, Maximum likelihood, Hypothesis testing using one and two sample and Analysis of variance.

<i>Section A</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-221</i>	<i>Dr. M. A. Bhatti</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 2:00</i>	<i>E-333</i>	<i>A. Batool</i>

EDUCATION

EDUC 110: Foundations of Education

(3 credits)

Perspectives on Economic, Cultural, Political, Ideological, Philosophical, Aesthetic and Psychological foundations of education. The history of education in Pakistan will also be covered.

<i>Section A</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>E-331</i>	<i>Dr. J. Shafi</i>
<i>Section B</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>N-217</i>	<i>Dr. C. J. Dubash</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-331</i>	<i>A. Samuel</i>

EDUC 120: Educational Psychology

(3 credits)

Principles of Psychology as applied to the educational process; Characteristics of the individual learner, the teacher, the classroom, methods and other relevant factors in the learning process; Various stages of growth and development; Brief introduction to psychological measurements and creativity in children.

<i>Section A</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-331</i>	<i>Dr. J. Shafi</i>
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UNIV 100: Foundation of University Education

(3 credits)

Prerequisites: Lang 110 (or exempted from the Language Program)

This course is especially designed for university freshmen. All entering students must take University 100 during their first semester or after they have finished the Lang program. This course helps them to make the best use of their years of the university study at FC College (University). Each student will become more aware of his or her strengths and weaknesses in learning by working on a variety of skills. By examining their values and developing learning strategies this course will help students become successful in FCC's liberal arts program. Transfers with 60 or more credits are exempt.

<i>Section A</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>E-323</i>	<i>Uzama Hanif</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-323</i>	<i>Aneela Gill</i>
<i>Section D</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>E-323</i>	<i>Saira.M.Khan</i>
<i>Section E</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-323</i>	<i>W Waheed</i>
<i>Section F</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-323</i>	<i>Dr.F.Hameed</i>
<i>Section G</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>E-323</i>	<i>Sadia Sumbal</i>
<i>Section H</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>E-323</i>	<i>Qurat ul Aen</i>
<i>Section J</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>E-323</i>	<i>Rehna John</i>

ENGLISH

ENGL 101: Writing and Grammar

(3 credits)

This course aims at helping the students on their written communication skills. It develops their writing from shaping a simple paragraph to organizing an essay in English. The course offers students ample practice in the use of grammar structures in a meaningful manner by note-taking, brainstorming, thinking, reflecting and arranging ideas logically in the form of paragraphs and then editing, revising and proofreading these ideas-based paragraphs. Apart from being exposed to different other types of writings like letter, memo, summary and diary, the students will mainly learn to write in their own words a coherent essay of various kinds, like narrative, process, descriptive, classified, analytical, argumentative, and comparison and contrast, etc..

<i>Section A</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>E-231</i>	<i>A. Pervez</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-231</i>	<i>A. Gill</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-231</i>	<i>F. Zaheer</i>
<i>Section D</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>E-231</i>	<i>F. Syeda</i>
<i>Section E</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-231</i>	<i>F. Syeda</i>
<i>Section F</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-103</i>	<i>TBD</i>
<i>Section H</i>	<i>Tuesday, Thursday 8:00-09:15</i>	<i>E-231</i>	<i>N. I. Ahmad</i>
<i>Section K</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>E-231</i>	<i>S. Raees</i>

ENGL 102: Communication Skills

(3 credits)

Emphasis will be on the development of basic conversational skills, identifying the main ideas of conversations, lectures, and other spoken texts; recognizing and understanding stressed and reduced sounds in words and sentences; practice deriving the meaning of new words from the context, making inferences from what is heard, and basic note-taking skills for participating successfully in social conversation and academic discussions; improving pronunciation.

<i>Section A</i>	<i>Tuesday, Thursday 11:00- 12:15</i>	<i>E-205</i>	<i>M. W. Azeem</i>
<i>Section B</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-205</i>	<i>A. Gill</i>

ENGL 103: Advanced Writing Skills

(3 credits)

ENGL 103 offers practice in writing skills at a more advanced level as compared to ENGL 101. In many ways it complements ENGL 101 and combines the techniques of purposeful writing with more specialized skills based on wider yet focused readings. It helps students present clearer concepts by offering them exercises in higher order critical and intellectual thinking along with professional ways of citing references

Section A	Monday, Wednesday, Friday 8:00	E-204	Zamir Naqvi
Section B	Monday, Wednesday, Friday 9:00	E-204	A. Wasim
Section C	Monday, Wednesday, Friday 10:00	E-204	L. Masih
Section D	Monday, Wednesday, Friday 11:00	E-204	A. Alphonse
Section E	Monday, Wednesday, Friday 12:00	E-204	S. Z. Zamir
Section F	Monday, Wednesday, Friday 2:00	E-204	Dr. N. Langah
Section G	Monday, Wednesday, Friday 3:00	E-204	Zamir Naqvi
Section H	Tuesday, Thursday 8:00-09:15	E-204	TBD
Section J	Tuesday, Thursday 9:30-10:45	E-204	S. Z. Zamir
Section K	Tuesday, Thursday 11:00-12:15	E-204	J. J. Austin
Section L	Tuesday, Thursday 12:30-01:45	E-204	J. J. Austin
Section M	Tuesday, Thursday 2:00-03:15	E-204	Dr. I. Hasan
Section N	Tuesday, Thursday 2:00-03:15	E-205	L. Masih
Section P	Monday, Wednesday, Friday 9:00	E-222	N. I. Ahmad
Section Q	Tuesday, Thursday 08:00-09:15	E-202	TBD
Section R	Tuesday, Thursday 09:30-10:45	E-203	W. Azeem
Section S	Monday, Wednesday, Friday 2:00	E-231	R. John
Section T	Tuesday, Thursday 12:30-01:45	E-202	N. I. Ahmad
Section U	Tuesday, Thursday 2:00-03:15	E-231	R. John
Section V	Tuesday, Thursday 11:00-12:15	E-222	A. Alphonse
Section W	Tuesday, Thursday 12:30-01:45	E-222	TBD
Section Y	Tuesday, Thursday 2:00-03:15	E-222	A. Alphonse
Section Z	Tuesday, Thursday 9:30-10:45	E-231	TBD
Section AA	Monday, Wednesday, Friday 11:00	E-103	TBD

ENGL 104: History of Literature

(3 credits)

The course focuses on various ages and movements that have influenced literature over centuries. This historical survey helps to analyze the social and cultural background to literature in English in the West.

Section A	Monday, Wednesday, Friday 8:00	E-222	S. Raees
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ENGL 201: Introduction to English Literature

(3 credits)

In this course we deal with the basic questions on the nature and function of literature and how to interpret, discuss and evaluate literary texts through a diverse and rich variety of selections from English and American literature.

Section A	Monday, Wednesday, Friday 3:00	E-203	Dr. I. Hassan
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ENGL 205: Phonetics & Phonology

(3 credits)

Awareness of the sound system in English in order to acquire mastery of spoken English; speech-sounds and how they differ; pattern-formation; changes in sounds according to context; stress and intonation affecting meaning. Emphasis will be laid on facilitating learners as they use English in their workplace, including an introduction to the system of phonetic transcription.

Section A Monday, Wednesday, Friday 9:00 E-205 Zamir Naqvi

ENGL 213: Sociolinguistics

(3 credits)

This course reflects on the interdependence of language and culture in various sociological contexts. The students will be introduced to specific terminological and theoretical preliminaries necessary for the understanding of this subject. They will particularly be encouraged to prepare projects based on the role of English and other languages in South Asian cultures.

Section A Monday, Wednesday, Friday 8:00 E-205 A. Gill

ENGL 216: Language and Literature

(3 credits)

Literature is read and discussed from representation to image. The students will read selections from world literature learning to associate the images created by the writer or translator with the English language structure, vocabulary and grammar.

Section A Monday, Wednesday, Friday 10:00 E-222 A. Wasim

ENGL 221: Classical Literary Criticism

(3 credits):

The role of the classical criticism is fundamental; even today if we disagree with Aristotle we still have to rely on his expertise. This course will introduce to us the importance of the fundamentals of classical criticism in the field of English literature. We shall cover the salient features of early critical thought process that complements the creative process.

Section A Monday, Wednesday, Friday 10:00 E-205 A. Pervez

LANG 100: Language Skills I

(3 credits)

This course will to make the students attain Interpersonal communication skills and enough reading and writing practice for them to move to LANG 110. Practice in all four language skills will be a daily routine. Supplementary materials will be used to improve vocabulary and comprehension.

Section A Monday – Friday 8:00-10:30 N-213 TBD

LANG 110: Language Skills II

(3 credits)

Advanced grammar, vocabulary, reading and writing will be introduced to bring the students to a level where they will fit into the regular University program and fare well.

Section A Monday – Friday 8:00-10:30 N-214 F. Nagi
Section B Monday – Friday 8:00-10:30 N-215 N. Hanif

Environmental Sciences

BIOL 203: General Genetics

(3 credits)

Introduction; concept of gene; Mendelian inheritance; sex-linked inheritance; linkage and crossing over; cytoplasmic inheritance; structure, chemistry, functions and types of DNA and RNA; recombination in viruses, bacteria, fungi and eukaryotes; Operon model; transposable elements; genetic code; variation in chromosomal number and structure; population genetics; problems related to the theoretical course.

<i>Section A</i>	<i>Tuesday, Thursday 11:00-11:50</i>	<i>S-417</i>	<i>Dr. M. Irfan</i>
<i>LAB</i>	<i>Thursday 2:00 & 3:00</i>	<i>S-321</i>	

CHEM 114: Introduction to Organic and Biochemistry

(3+1 credits)

Prerequisite: F.Sc. or A-Level Chemistry

Chemistry of carbon; introduction to functional groups inter-conversion; study of hydrocarbons; study of hydrocarbons including additions to multiple bonds and substitution reactions of benzene; Chemistry of food and its components including carbohydrates, proteins, lipids, vitamins and minerals.

<i>Section A</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>S-215</i>	<i>Dr. S. Jelani</i>
<i>Lab</i>	<i>Friday 10:00 & 11:00</i>	<i>S-135</i>	

ENVR 251: Living Green

(3 credits)

This course will identify the key environmental issues such as population explosion, air, water, food, sanitation and climate change etc. Remedies at local and individual level such as sustainable health, sustainable home, sustainable work place and sustainable energy future will be discussed.

<i>Section A</i>	<i>Monday, Friday 8:00</i>	<i>S-410</i>	<i>U. Mubeen</i>
<i>LAB</i>	<i>Wednesday 2:00 & 3:00</i>	<i>S-331</i>	

GEOG 240: Global Environmental Issues

(3 credits)

This course describes the earth's ecosystems; Major issues relating to the human use and misuse of environmental resources and possible courses of action for their conservation.

<i>Section A</i>	<i>Monday, Wednesday, Friday 3:00</i>	<i>A-2</i>	<i>K. Shafique</i>
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GEOGRAPHY

GEOG 101: Fundamentals of Geography

(3 credits)

Builds perspective about Geography as a discipline, familiarizes its thematic domains and fundamental concepts.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-227</i>	<i>K. Shakrullah</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>A-2</i>	<i>K. Shafique</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>E-227</i>	<i>Z. J. Qureshi</i>
<i>Section D</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>A-2</i>	<i>K. Shafique</i>
<i>Section E</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-227</i>	<i>Z. J. Qureshi</i>

GEOG 133: Geographical Profile of Pakistan

(3 credits)

It relates to major features of the physical environment, resources, culture, communications and trade of Pakistan. Analyzes the major problems confronted by Pakistan relating to cross cultural relationships, Socio-economic viability, Environmental conservation, Resource sustainability and Development.

<i>Section A</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-227</i>	<i>S. A. Umar</i>
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GEOG 222: Globalization-An Introduction

(3 credits)

Focus is on evolution and dynamics of globalization and its impact on spatiotemporal patterns of human culture.

<i>Section A</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>E-227</i>	<i>S. A. Umar</i>
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GEOG 240: Global Environmental Issues

(3 credits)

This course describes the earth's ecosystems; Major issues relating to the human use and misuse of environmental resources and possible courses of action for their conservation.

<i>Section A</i>	<i>Monday, Wednesday, Friday 3:00</i>	<i>A-2</i>	<i>K. Shafique</i>
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HISTORY AND PAKISTAN STUDIES

PKST 101: Pakistan Studies (Compulsory)

(3 credits)

The Ideology of Pakistan, the Aligarh movement, the Two-Nation theory, Pakistan movement, important events and the creation of Pakistan. Initial problems of Pakistan, constitutional development, Islamization in Pakistan. Land of Pakistan, economic and industrial development in Pakistan. The Islamic World and Pakistan.

<i>Section A</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>S-212</i>	<i>TBD</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>S-212</i>	<i>S. Sumbal</i>
<i>Section C</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>S-212</i>	<i>S. Sumbal</i>
<i>Section D</i>	<i>Monday, Wednesday, Friday 2:00</i>	<i>S-212</i>	<i>Dr. A. S. Zehra</i>
<i>Section E</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>S-212</i>	<i>Dr. Y. K. Bangash</i>
<i>Section F</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>S-213</i>	<i>Dr. Y. K. Bangash</i>
<i>Section G</i>	<i>Tuesday, Thursday 2:00-3:15</i>	<i>S-213</i>	<i>K. Jawad</i>
<i>Section H</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>S-413</i>	<i>S. Sumbal</i>
<i>Section J</i>	<i>Tuesday, Thursday 12:30-01:45</i>	<i>S-213</i>	<i>TBD</i>
<i>Section K</i>	<i>Monday, Wednesday, Friday 08:00</i>	<i>S-213</i>	<i>S.Sumbal</i>
<i>Section L</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>S-212</i>	<i>TBD</i>

HIST 101: Freedom and the Nationalist Movement in the Subcontinent (1857-1947) (3 credits)

The freedom movement in the subcontinent, 1857 to 1947, covering all the major events along with a brief survey of nationalist movements and prominent personalities

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>S-213</i>	<i>Dr. Y. K. Bangash</i>
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HIST 250: History of Salateen-e-Delhi

(3 credits)

The course will study the Salateen-e-Delhi period and will focus on the origin, main features and causes of its decline. This course will enable the students to analyze the development of art, culture & architecture of the age, along with critical evaluation of state & society under the rule of the Sultans.

<i>Section A</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>S-213</i>	<i>K. Jawad</i>
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MASS COMMUNICATION

MCOM 100: Fundamentals of Speech

(3 credits)

Study of the basic principles and practices of good vocal production and oral communication. Examines texts, verse and prose in terms of vocal delivery. Explores the basic components of communication through analysis and practice in a variety of oral presentations. Focus is on English speaking skills.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-229</i>	<i>N. Sahar</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-229</i>	<i>N. Sahar</i>
<i>Section C</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-229</i>	<i>N. Sahar</i>
<i>Section D</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>E-228</i>	<i>TBD</i>
<i>Section E</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-228</i>	<i>Qurra-tul-Aen</i>
<i>Section F</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-228</i>	<i>Qurra-tul-Aen</i>
<i>Section G</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>E-229</i>	<i>TBD</i>
<i>Section H</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>E-229</i>	<i>TBD</i>
<i>Section J</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>E-228</i>	<i>A. Fareed</i>
<i>Section K</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-228</i>	<i>A. Fareed</i>
<i>Section L</i>	<i>Monday, Wednesday, Friday 2:00</i>	<i>E-229</i>	<i>R. A. Hassan</i>
<i>Section M</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>E-228</i>	<i>A. Fareed</i>
<i>Section N</i>	<i>Monday, Wednesday, Friday 3:00</i>	<i>E-229</i>	<i>R. A. Hassan</i>
<i>Section P</i>	<i>Tuesday, Thursday 2:00-3:15</i>	<i>E-229</i>	<i>R. A. Hassan</i>
<i>Section Q</i>	<i>Tuesday, Thursday 2:00-3:15</i>	<i>E-228</i>	<i>TBD</i>

MCOM 101: Introduction to Journalism

(3 credits)

Brief introduction to print electronic and online journalism, types of journalism, news organization, basics of reporting and editing, contents of newspaper, television and radio.

<i>Section A</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-230</i>	<i>Dr. S. Abbas</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>E-230</i>	<i>F. Mahmood</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>E-229</i>	<i>A. Muzamill</i>
<i>Section D</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>E-230</i>	<i>M. Ali</i>
<i>Section E</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-230</i>	<i>F. Mahmood</i>

MCOM 103: Introduction of PR & Advertising

(3 credits)

Advertising and its role in the society, consumer culture, advertising and mass media marketing, public relations, selling and sales management. Process and tools of PR.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-230</i>	<i>M. A. Soomro</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-213</i>	<i>M. A. Soomro</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-229</i>	<i>A. Muzamill</i>
<i>Section D</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>E-230</i>	<i>A. Muzamill</i>
<i>Section E</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>E-228</i>	<i>M. A. Soomro</i>

MCOM 201: News Reporting

(3 credits)

Prerequisite: MCOM 101

Mechanics, elements, value and structure of stories for print and electronic media; news sources for print and electronic media; Qualifications and functions of a reporter; Basics of camera and microphone reporting; Interpretative and investigative reporting, Reporting beats and interview techniques.

<i>Section A</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-213</i>	<i>M. J. Ghauri</i>
<i>Section B</i>	<i>Tuesday, Thursday 2:00-3:15</i>	<i>E-230</i>	<i>M. J. Ghauri</i>

MCOM 203: Media & Peace Building

(3 credits)

Prerequisite: MCOM 101

Introduction to peace building, introduction to interactive communication approach, tools of Mass Communication, understanding conflict, tools for conflict analysis, introduction to theater, role of music in peace building process, art for peace, vision and framework for peace and justice, The universal declaration of human rights, universal islamic declaration of human rights, latest human rights report (topics related to women, minorities, democratic governance).

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-213</i>	<i>F. Jabeen</i>
<i>Section B</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-230</i>	<i>F. Jabeen</i>

MATHEMATICS

MATH 100: Quantitative Skills

(3 credits)

Basic algebra, percentage, profit, loss, commission, ratio, proportion, zakat deduction, unitary methods, time, velocity, distance, area and other real life applications of Mathematics. Mean, median, mode, data interpretation, introduction to probability.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>S-413</i>	<i>K. Azhar</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>S-413</i>	<i>K. Azhar</i>
<i>Section C</i>	<i>Tuesday, Thursday 2:00-3:15</i>	<i>S-413</i>	<i>Y.Abdia</i>
<i>Section D</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>S-413</i>	<i>Y.Abdia</i>
<i>Section E</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>S-412</i>	<i>F. Jamil</i>
<i>Section F</i>	<i>Monday, Wednesday, Friday 2:00</i>	<i>S-413</i>	<i>F. Jamil</i>
<i>Section G</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>S-413</i>	<i>M. Z. R. Bhatti</i>
<i>Section H</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>S-413</i>	<i>F. Jamil</i>
<i>Section J</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>S-412</i>	<i>F. Jamil</i>
<i>Section K</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>S-413</i>	<i>Y.Abdia</i>

MATH 101: Pre-Calculus & Trigonometry

(3 credits)

Fundamentals, equations and inequalities, Functions and graphs, polynomial, rational, exponential and logarithmic functions, Trigonometric functions and their graphs, Trigonometric identities, Solution of right and Oblique triangles. Matrices and their use in the solution of simultaneous equations. the solution of simultaneous equations.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>S-412</i>	<i>M. Asghar</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>S-412</i>	<i>M. Asghar</i>

MATH 102: Calculus-I

(3 credits)

Prerequisite: MATH-101 or A-Level Mathematics or Intermediate Mathematics

Functions, graphs of functions, Translation, Stretching and compressing graphs, Lines, Limits, continuity, Differentiability and Integration with application, Introduction to definite integral, Introduction to parabola, Hyperbola and Ellipse.

<i>Section A</i>	<i>Tuesday, Thursday 11:05-12:20</i>	<i>S-412</i>	<i>Dr. A. M. Qureshi</i>
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PHILOSOPHY

PHIL 101: Introduction to Philosophy

(3 credits)

This course brings to the student a selection of the problems historically identified as philosophical along with the methods philosophers have used to solve these problems. Examples would be justice and moral order, evaluation and justification of belief, human value and dignity. The emphasis is on identifying the problems that have bothered critical thinkers, followed by selective philosophical solutions and their authors.

Section A	Monday, Wednesday, Friday 9:00	E-121	Dr. M. M. Miller
Section B	Tuesday, Thursday 11:00-12:15	E-121	Dr. G. Irfan
Section C	Monday, Wednesday, Friday 12:00	E-105	Dr. M. M. Miller

PHIL 202: Philosophy: Modern to Contemporary

(3 credits)

A continuation of the study of critical thought as it develops from the 16th century CE to the present, including Eastern as well as Western thinkers. Of special interest are the issues that captured attention because of the rise of the sciences, the development of naturalism, humanism and the challenges of 20th century social crises.

Section A	Monday, Wednesday, Friday 10:00	E-121	Dr. M. M. Miller
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PHYSICS

PHYS 100: Introduction to Physics

(4 credits)

Does not fulfill requirements of General Education for students who have studied physics at FSc, A-levels or equivalent
Scope of Physics, Kinematics and bodies in motion; communication, basic electricity
medical physics and elements of astrophysics; laboratory: familiarization with measuring
instruments and related experimentation.

Section A	Monday, Wednesday, Friday 8:00	S-007	Dr. P. J. Henderson
Lab	Monday 10:00-11:50	S-029	
Section B	Monday, Wednesday, Friday 9:00	S-007	Dr. S. Aslam
Lab	Tuesday 10:00-11:50	S-029	
Section C	Tuesday, Thursday 8:00-09:15	S-007	Dr. P. J. Henderson
Lab	Thursday 10:00-11:50	S-029	
Section D	Monday, Wednesday, Friday 10:00	S-109	Dr. S. Zaheer
Lab	Monday 2:00-03:50	S-016	
Section E	Tuesday, Thursday 8:00-09:15	S-109	Dr. S. Zaheer
Lab	Monday 8:00-09:50	S-029	

PHYS 102: General Physics II

(4 credits)

Prerequisite: PHYS 101 or Physics at Intermediate/A-Level
Electricity, magnetism, DC and AC currents, and modern physics, laboratory

Section A	Monday, Wednesday, Friday 11:00	S-027	Dr. M.Y. Zaheer
Lab	Tuesday 2:00-3:50	S-027	

PHYS 103: Mechanics

(4 credits)

Prerequisite: PHYS 100 or FSc or A level physics or equivalent.

Study of physical phenomena in mathematical terms; Statics and dynamics of particles
and rigid bodies; oscillatory and rotary motion; gravitation and fluid mechanics,
Laboratory

Section B	Monday, Wednesday, Friday 12:00	S-109	Dr. S. A. Shah
Lab	Monday 2:00-03:50	S-029	
Section C	Tuesday, Thursday 11:00-12:15	S-007	Dr. M.Y. Zaheer
Lab	Thursday 2:00-03:50	S-029	
Section D	Tuesday, Thursday 11:00-12:15	S-016	Dr. S. A. Shah
Lab	Wednesday 2:00-03:50	S-029	
Section E	Tuesday, Thursday 09:30-10:45	S-007	Dr. S. A. Shah
Lab	Friday 8:00-09:50	S-029	

PHYS 104: Waves and Vibrations

(3 credits)

Prerequisite: PHYS 100 or FSc or A level physics or equivalent.
Study of wave phenomena in mathematical terms, types of waves; mathematical
representations; energy of waves; interference; diffraction and polarization.

Section A	Monday, Wednesday, Friday 11:00	S-007	Dr. S. Aslam
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PHYS 151: Introduction to Sources of Energy and Environment (3 Credits)

[Not recommended for first semester freshmen]

Survey of conventional energy recourses; fossil fuels including petroleum, natural gas, coal and tar sands; the promise and problems of nuclear energy; Alternative energy sources; wind, solar, bio-gas, tidal etc., energy conservation; environmental pollution and its global effects.

Section A Tuesday, Thursday 09:30-10:45 S-016 Dr. M. Gill

PHYS 222: Modern Physics

(4 credits)

Prerequisite: PHYS 221 or PHYS 103

Introduction to modern physics with emphasis on the basic concepts that can be treated with elementary mathematics. Einstein's special theory of relativity; black body radiation; the Bohr atom; elementary wave mechanics; atomic and molecular spectra; exclusion principle; periodic table; x-ray spectroscopy; introduction to lasers; laboratory.

Section A Tuesday, Thursday 2:00-03:15 S-007 Dr. S. Aslam
Lab Thursday 10:00 & 11:50 S-027

POLITICAL SCIENCE

PLSC 101: Introduction to Political Science

(3 credits)

A survey of the areas covered in Political Science including the nature of Political Science, the nature and forms of the state, structure of government, political dynamics, and the development of an appropriate Political Science vocabulary.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>S-111</i>	<i>S. N. Sindhu</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>S-111</i>	<i>S. N. Sindhu</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>S-111</i>	<i>Dr. E. Hussain</i>
<i>Section D</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>S-111</i>	<i>A. W. Waheed</i>
<i>Section E</i>	<i>Monday, Wednesday, Friday 3:00</i>	<i>S-111</i>	<i>A. W. Waheed</i>
<i>Section F</i>	<i>Tuesday, Thursday 3:30-4:45</i>	<i>S-111</i>	<i>Dr. S. F. Hasnat</i>

PLSC 102: Pakistan Government-National

(3 credits)

A history of the freedom movement and study of the main institutions of the national government and what makes the Pakistan government unique.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>S-112</i>	<i>Dr. M. Younis</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>S-112</i>	<i>A. W. Waheed</i>

PLSC 103: Pakistan Government-Provincial/Local

(3 credits)

A study of the government at the provincial and local level with an examination of the basic institutional arrangements of the provincial government. It will include discussion of provincial elections, political party organization, state public policy matters and a detailed exploration of the operation of government at these levels.

<i>Section A</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>S-112</i>	<i>Dr. S. F. Hasnat</i>
<i>Section B</i>	<i>Tuesday, Thursday 2:00-3:15</i>	<i>S-112</i>	<i>Dr. S. F. Hasnat</i>

PLSC 201: Government of Western Europe and the United States

(3 credits)

Prerequisite: PLSC 101

A comparative study of the parliamentary, presidential, unitary and federal systems of major western nations.

<i>Section A</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>S-112</i>	<i>Dr. M. Younis</i>
<i>Section B</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>S-112</i>	<i>S. N. Sindhu</i>

PLSC 203: International Relations

(3 credits)

Prerequisite: PLSC 101

Theory and practice of International Relations using the distinction between realism and idealism as the basis for study. Attention will be given to power relationships, theories of war and conflict, international morality, collective security and terrorism.

<i>Section A</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>S-111</i>	<i>Dr. I. H. Bokhari</i>
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PSYCHOLOGY

PSYC 100: Introduction to Psychology

(3 credits)

A survey of the historical background and subfields of Psychology, research methods, biological basis of behavior and psychological processes such as sensation, attention, perception, learning, memory, motivation, emotions, intelligence, thinking and personality.

<i>Section A</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>S-115</i>	<i>I. S. Samuel</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>S-115</i>	<i>R. Zahir</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>S-115</i>	<i>S. M. Khan</i>
<i>Section D</i>	<i>Monday, Wednesday 1:00, Friday 2:00</i>	<i>S-115</i>	<i>S. M. Khan</i>

PSYC 200: Developmental Psychology-II

(3 credits)

Prerequisite: PSYC 150

Study of human development from adulthood to old age, focusing on the physical, intellectual and personality development. Special emphasis on life after retirement and problems of old age, death and bereavement.

<i>Section A</i>	<i>Tuesday, Thursday 11:00-12:15</i>	<i>S-115</i>	<i>A. Hameed</i>
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PSYC 220: Statistics for Psychology

(4 credits)

Prerequisite: PSYC 100

It is designed to equip the students with the basic statistical concepts and skills necessary for conducting research and provide adequate quantitative foundation for understanding psychological literature and the SPSS. This course will cover both (a) descriptive statistical techniques including frequency distributions, graphing, and measures of central tendency and variability, and (b) inferential statistical techniques including t-tests, analysis of variance, correlation and chi-square. The emphasis in this course is upon the application of statistics rather than the mathematical basis of statistics. The application of these techniques to research and the interpretation of results will be emphasized.

<i>Section A</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>S-115</i>	<i>R. Zahir</i>
<i>Lab</i>	<i>Monday 2:00</i>	<i>S-219</i>	

PSYC 240: Theories of Personality

(3 credits)

Prerequisite: PSYC 100

Historical development of the field and some misconceptions. Theories of personality including Psychodynamic, Trait, Cognitive, Humanistic, Physiological, and Learning as well as some new approaches. Research activities and analysis will be integrated into the course work.

<i>Section A</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>S-115</i>	<i>A. Hameed</i>
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PSYC 280: Social Psychology

(3 credits)

Prerequisite: PSYC 100

Nature, Scope, Historical perspective and research methods. Social perception, Cognition and identity; Interpersonal relationship, Attribution, Conformity, Pro-social behavior, Groups and leadership, Attitude, Prejudice and Aggression. Facts and theories will be related to everyday social issues and concerns.

Section A Monday, Wednesday, Friday 10:00 N-217 I. S. Samuel

RELIGIOUS STUDIES

ISLM 101: Islamic Education

(3 credits)

This course is intended to provide an introductory understanding of Islam. Students learn much about the Islamic way of life in this subject as they study about logical and rational vindication of their fundamental beliefs. The course is quite helpful in improving character traits, personality strengths and social manners in the light of Islamic teachings. By taking this course, students improve their inner conviction about their faith and are likely to become better Muslims. Basic emphasis is on ethical development and character building of the students.

<i>Section A</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>E-122</i>	<i>A. Rehman</i>
<i>Section B</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-122</i>	<i>A. Rehman</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 3:00</i>	<i>E-126</i>	<i>H. A. Ghani</i>
<i>Section D</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-126</i>	<i>Dr. F. Aziz</i>
<i>Section E</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-122</i>	<i>H. U. Rehman</i>
<i>Section F</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>E-126</i>	<i>H. U. Rehman</i>
<i>Section G</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-122</i>	<i>H. U. Rehman</i>
<i>Section H</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>E-122</i>	<i>H. U. Rehman</i>
<i>Section J</i>	<i>Monday, Wednesday, Friday 11:00</i>	<i>E-126</i>	<i>Dr. F. Aziz</i>
<i>Section K</i>	<i>Tuesday, Thursday 2:00-3:15</i>	<i>E-126</i>	<i>H. A. Ghani</i>

ISLM 103: Islamic Ideology

(3 credits)

Prerequisite: ISLM101

This course provides rigorous insight into the Islamic ideology and Islamic way of life. The course is a balanced combination of basic and higher order thinking. It provides ample opportunity to the participants to discuss Islamic ideology through different activities and explore the scope of its practical implication in real life. The course has especially been designed for students who wish to appear in competitive examinations.

<i>Section A</i>	<i>Monday, Wednesday, Friday 2:00</i>	<i>E-122</i>	<i>Dr. F. Aziz</i>
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ISLM 104: Arabic Communication Skills

(3 credits)

This subject aims to provide an introductory understanding of Arabic grammar and composition. It deals with the basic structure of Arabic language; everyday conversation, vocabulary enhancement, translation and composition.

<i>Section A</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>E-122</i>	<i>A. Rehman</i>
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CRST 152: Christian Ethics

(3 credits)

This course presents the biblical and theological foundations of Christian ethics with a special emphasis on developing the skills necessary to formulate ethical questions and find their solutions in the Bible.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-126</i>	<i>Dr. R. Wetmore</i>
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CRST 251: Old Testament

(3 credits)

Prerequisite: CRST 152

This course presents a survey of the literature of the Old Testament with a view to: Distinguishing its unifying message; Understanding the Old Testament historical books within their original cultural, Political and historical context; Gaining skills in identifying and faithfully interpreting various literary genres; Gaining skills in applying the original messages of the various books to contemporary life.

Section A Tuesday, Thursday 8:00-9:15

E-126

Dr. R. Wetmore

SOCIOLOGY

SOCL 100: Introduction to Sociology

(3 credits)

This course aims to develop an understanding of societal processes by critically thinking about oneself in relation to the various social structures and worlds at the individual, group and societal levels. The global focus of the course uses the tools of Sociology to look at a variety of issues around the world. The course provides an opportunity to both learn about basic sociological approaches and to do some practical assignment that reinforce classroom learning.

<i>Section A</i>	<i>Tuesday, Thursday 9:30-10:45</i>	<i>E-324</i>	<i>Dr. G. Clark</i>
<i>Section B</i>	<i>Tuesday, Thursday 8:00-9:15</i>	<i>E-324</i>	<i>S. Rasheed</i>
<i>Section C</i>	<i>Monday, Wednesday, Friday 12:00</i>	<i>E-324</i>	<i>A. Azeem</i>
<i>Section D</i>	<i>Monday, Wednesday, Friday 8:00</i>	<i>E-324</i>	<i>TBD</i>
<i>Section E</i>	<i>Monday, Wednesday, Friday 3:00</i>	<i>E-324</i>	<i>TBD</i>
<i>Section F</i>	<i>Tuesday, Thursday 12:30-1:45</i>	<i>E-324</i>	<i>TBD</i>

SOCL 220: Introduction to Criminology

(3 credits)

Prerequisite: SOCL 100

Criminology is a distinct discipline which deals with the discourse and inquiry about crime. This course provides a sociological basis to understand deviancy and criminal behavior. Its approach towards crime is empirical and scientific which sets it apart from legal and moral debates about the subject. This course reviews the causes and consequences of crime, responses to crime and historical transition of ideas about crime. It also provides tools for the scientific investigation of criminal behavior.

<i>Section A</i>	<i>Monday, Wednesday, Friday 10:00</i>	<i>E-324</i>	<i>A. Azeem</i>
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SOCL 290: Political Sociology

(3 credits)

Prerequisite: SOCL 100

This course examines the social factors underlying political systems such as democracy and totalitarianism. It studies social movements and revolutions, conflict and conflict resolution, voting behavior, and political socialization and the influence of ethnicity, religion, race, gender and caste on politics.

<i>Section A</i>	<i>Monday, Wednesday, Friday 9:00</i>	<i>E-324</i>	<i>S. Rasheed</i>
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STATISTICS

STAT 100: BASIC STATISTICS

(3 credits)

Sample and population, variables, collection and presentation of data, measures of central tendency and dispersion for ungrouped data, Index numbers, correlation and free hand line of trend.

Section A	Monday, Wednesday, Friday 8:00	S-421	M. A. Mughal
Section B	Monday, Wednesday, Friday 2:00	S-420	N. Mushtaq
Section C	Tuesday, Thursday 8:00-9:15	S-421	Dr. M. Azam
Section D	Monday, Wednesday, Friday 10:00	S-420	Dr. M. Aslam
Section E	Monday, Wednesday, Friday 3:00	S-421	N. Mushtaq
Section F	Tuesday, Thursday 2:00-3:15	S-421	S. Ayub
Section G	Tuesday, Thursday 9:30-10:45	S-420	M. Aslam
Section H	Monday, Wednesday, Friday 03:00	S-420	S. Ayub

STAT 101: Statistical methods

(3 credits)

Nature and scope of statistics, scales of measurements, measure of central tendency and dispersion for grouped data, moments, skewness and kurtosis, fundamental rules of counting, Basic probability, moments in probability context.

Section A	Tuesday, Thursday 2:00-3:15	S-420	N. Mushtaq
Section B	Monday, Wednesday, Friday 2:00	S-421	S. Ayub
Section C	Monday, Wednesday, Friday 11:00	S-420	Dr. M. Rasul

STAT 102/MATH 105: Probability and Probability Distributions

(3 credits)

Basic set theory. Different approaches and laws of probability. Conditional probability, Bayes' rule. Random variables, some standard discrete and continuous probability distributions

Section A	Monday, Wednesday, Friday 12:00	S-420	Dr. M. Rasul
Section B	Monday, Wednesday, Friday 09:00	S-421	M. Aslam

STAT 103: Quantitative methods in social sciences

(3 credits)

Application of Statistical methods in Social Sciences. Data analysis using SPSS.

Section A	Tuesday, Thursday 11:00-12:15	S-320	M. A. Mughal
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STAT 201: Statistical Inference I (Pre-requisite: Stat 101 or 102)

(3 credits)

Population and sample; Introduction to sampling distributions and their properties; point and interval estimation; testing of hypotheses about means, proportions and variances.

Section A	Monday, Wednesday, Friday 12:00	S-421	M. Aslam
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STAT 205: Business Statistics

(3 credits)

Application and concept of probability and probability distributions in business, sample and sampling distributions, statistical inference in marketing and business, polynomial models in supply and demand, model fitting through simple and multiple regression.

Section A Monday, Wednesday, Friday 11:00

S-421

M. A. Mughal

URDU

URDU 101: Communicative Urdu

(3 credits)

Communication and its different means, brief introduction to Urdu language, some fundamentals of Urdu grammar, functional Urdu, creative writing and journalistic Urdu.

Section A	Monday, Wednesday, Friday 8:00	E-328	Dr. A. M. Khan
Section B	Monday, Wednesday, Friday 11:00	E-328	Dr. A. A. Virk
Section C	Tuesday, Thursday 11:00-12:15	E-330	Dr. M. Tahir
Section D	Monday, Wednesday, Friday 10:00	E-328	Dr. A. A. Virk
Section E	Monday, Wednesday, Friday 9:00	E-330	Dr. A. M. Khan
Section F	Monday, Wednesday, Friday 11:00	E-330	Dr. A. G. S. Qasim
Section G	Monday, Wednesday 1:00, Friday 2:00	E-330	A. Anwar
Section H	Monday, Wednesday, Friday 10:00	E-330	Dr. M. Tahir
Section J	Monday, Wednesday, Friday 8:00	E-330	Dr. A. G. S. Qasim
Section K	Monday, Wednesday, Friday 9:00	E-328	Dr. M. Tahir
Section L	Monday, Wednesday 1:00, Friday 2:00	E-328	N. Khokhar
Section M	Tuesday, Thursday 12:30-1:45	E-328	A. Anwar

URDU 103: A Selection of Urdu Verse

(3 credits)

Ghazal: Ghalib, Mir and Iqbal; Nazam, Nazeer Akbar Abadi, Akbar Allah Abadi, Majeed Amjad and Syed Zamir Jafri.

Section A	Tuesday, Thursday 8:00-9:15	E-328	Dr. A. M. Khan
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URDU 104: A Selection of Urdu Prose

(3 credits)

Letters: Ghalib; Essays: Sir Syed Ahmad Khan, Wazir Agha and Mushtaq Ahmad Yousofi; Short Story: Rrem Chand; Character Sketch: M. Abdul Haque; Extract of Travelogue: Begum Akhtar Riaz-ud-Din

Section A	Tuesday, Thursday 9:30-10:45	E-328	Dr. A. G. S. Qasim
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URDU 205: Pakistani Poetry

3 credits)

Brief background of Pakistani poetry - Munir Niazi, Shahzad Ahmad and Ahmad Faraz, Nazam: Munir Niazi, Anwar Masood, Parveen Shakir and Amjad Islam Amjad.

Section A	Tuesday, Thursday 2:00-3:15	E-328	A. Anwar
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URDU 208: Script Writing in Urdu

(3 credits)

Documentary writing: Program scripts, Journalistic scripts, Business scripts, Drama and Film scripts.

Section A	Tuesday, Thursday 12:30-1:45	E-330	N. Khokhar
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