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.

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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.

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

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 COURSE-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
1) At least TWO Science courses (Not from the same discipline)
2) At least ONE computer Science Course
3) ONE other courses in either Science
4) ONE other course either in Science, Mathematics, 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.
The General Education Division for SOPHOMORES, JUNIORS and SENIORS

Humanities.
Requirements: (1 course)
Islamic studies/ethics (ISLM 101 or CRST 152)
Disciplines: (2 courses; at least one NOT in religious Studies)
Art
English
History
Music
Religious Studies
Social or Behavioral Sciences
Requirements: (1 course)

Pakistan Studies (PKST 101)

Disciplines: (2 courses; at least one NOT in Pakistan studies)
Anthropology
Education
Pakistan Studies
Political Sciences

Physical or Natural Sciences
Disciplines: (3 courses with labs; at least one from each group)
Physical Sciences:
Chemistry
Physics
Natural Sciences:
Botany
Zoology

Mathematics and Information Technology
Requirements: (1 course)
A Computer Science course OR demonstrate competence in Computer Science.
**If competence is demonstrated, the student must take a course in this division to replace it.**

Disciplines: (2 courses; at least one NOT in Computer Science)
Computer Science/Information Technology
Mathematics
Communications
Requirements: (4 courses)
Fundamentals of speech (MCOM 100)
English Writing/Grammar (ENGL 101) or demonstrated competence
Advanced Writing Skills (ENGL 103)

Communicative Urdu (URDU 101)
** If competence is demonstrated, the student must replace ENGL 101 with another course from the English Discipline**
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 A  Monday to Friday 08:00-09:30  S-417  Dr. H. Saeed
LAB    Wednesday 01:15-02:45  S-329
Section B  Monday to Friday 08:00-09:30  S-416  Dr. W. George
LAB    Monday 01:15-02:45  S-341
Section C  Monday to Friday 09:45-11:15  S-410  U. Mобeen
LAB    Monday 01:15-02:45  S-329
Section D  Monday to Friday 09:45-11:15  S-425  Dr. H. Saeed
LAB    Thursday 01:15-02:45  S-329

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 to Friday 08:00-09:30  S-424  Dr. K. Z. Rasib
LAB    Tuesday 01:15-02:45  S-341

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.

Section A  Monday to Friday 09:45-11:15  S-424  Dr. S. Butt
LAB    Tuesday 01:15-02:45  S-331

BIOL 402: Limnology (4 credits)
Prerequisite: BIOL 302
Concepts of inland water bodies, physio-chemical characteristics of water bodies including light, heat, hydrological, temperature and thermal stratification. Types of inland water bodies and their ecosystems. Nutrients status (nitrogen and phosphorus cycles), trophic levels and food web. Aquatic organism and their diversity, status of production (primary, secondary and tertiary) and comparative review of different lakes (tropical and temperate regions).

Section A  Monday to Friday 11:30-01:00  S-416  Dr. W. George
LAB    Thursday 01:15-02:45  S-341
**BIOL 497: Internship**  
(6 credits)  
Instructor’s permission required  
Prerequisite: Students with CGPA 2.75 or above are eligible.  
Internship is offered to students majoring in biological sciences. It may start at the end of summer 2012 semester and its duration will be 6 weeks.  

Section A  
Dr. K. A. Malik

**BIOL 499: Research**  
(6 credits)  
Instructor’s permission required  
Prerequisite: Students with CGPA 2.75 or above are eligible.  
Research is offered to students majoring in biological sciences. Students can take summer courses and carry out research simultaneously.  

Section A  
Dr. K. A. Malik

**BIOT 201: Introduction to biotechnology**  
(3 credits)  
Brief history of biotechnology, different aspects of biotechnology and it’s future development as a cornerstone in human welfare.  

Section A  
Monday to Friday 11:30-01:00  
S-410  
Dr. M. Irfan

LAB  
Tuesday 01:15-02:45  
S-329  
Dr. M. Irfan

**BIOT 308: Techniques in Biotechnology**  
(3 credits)  
Construction and screening of genomic and DNA libraries (victors used and probes for screening). DNA sequencing techniques: Maximum and Gilberts, Dideoxy and Rapid Sequencing Methods, Polymerase Chain Reaction (PCR). Components of PCR (template DNA, Primers, enzymes and different types of PCR). Applications of PCR in biology, medicine and forensic sciences. Changing genes: site-directed mutagenesis; primer extension, chromosomal walking and DNA finger printing techniques.  

Section A  
Monday to Friday 09:45-11:15  
S-416  
Dr. M. Irfan

LAB  
Wednesday 13:45-14:45  
S-321  
Dr. M. Irfan

**BIOT 498: Internship**  
(6 credits)  
Instructor’s permission required  
Prerequisite: Students with CGPA 2.75 or above are eligible.  
Internship is offered to students majoring in biological sciences. It may start at the end of summer 2012 semester and its duration will be 6 weeks.  

Section A  
Dr. K. A. Malik

**BIOT 499: Research**  
(6 credits)  
Instructor’s permission required  
Prerequisite: Students with CGPA 2.75 or above are eligible.  
Research is offered to students majoring in biological sciences. Students can take summer courses and carry out research simultaneously.  

Section A  
Dr. K. A. Malik
**BTNY 207: Economic Botany**  
*(3 credits)*

This course will cover the study of plants from their economic point of view. The improvement of plants for better yield of their economic products and the strategies for the domestication and preservation of economic plants. Plants as a source of food; beverage, herbs and spices; medicinal plants, psychoactive plants, poisonous and allergy plants, fibers, dyes, tannins, hydrogel, latexes and resins, wood cork and bamboo. Cultural and molecular approaches to improvement of economic products and domestication and preservation of economic plants.

**Section A**  
Monday to Friday 09:45-11:15  
S-417  
Dr. A. S. Khan

**LAB**  
Wednesday 01:15-02:45  
S-331

**ZOOL 305: Integrated Pest Management**  
*(4 credits)*

*Prerequisite: BIOL 302*

People, plants and pests, dynamics of pest populations, intensive agriculture, pest problems, concepts of IPM, cultural control, host plant resistance, parasitoids and predators, microbial control, botanical pest control, synthetic organic insecticides biotechnology approaches, bio-rational and other innovative approaches, IPM achievements, potential and challenges.

**Section A**  
Monday to Friday 11:30-01:00  
S-417  
Dr. K Z. Rasib

**LAB**  
Wednesday 01:15-02:45  
S-341
BUSINESS

BUSN 390: Internship (6 credits)
All business students must undertake the internship after the junior year.
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
Introduction to various branches of Chemistry, inorganic, organic and physical chemistry, fundamental concepts and their application in daily life including elements, compounds and mixture. Chemical reactions, stoichiometry and acid-base concepts.

Section A  Monday to Friday 11:30-01:00  S-119  Dr. L. Amir
Lab  Monday 01:15-02:45  S-148

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  Monday to Friday 11:30-01:00  S-216  Dr. M. Al Rashida
Lab  Thursday 01:15-02:45  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-convension; 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  Monday to Friday 09:45-11:15  S-216  Dr. M. I. Aujla
Lab  Wednesday 01:15-02:45  S-135
Section B  Monday to Friday 11:30-01:00  S-215  Dr. S. Jelani
Lab  Thursday 01:15-02:45  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 form ideal behavior, intramolecular forces, physical properties off liquids and solids, packing types and geometry of solids, crystal structure, Bragg's law and it's applications, Basic concepts of chemical kinetics, differential and integrated rat 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.

Section A  Monday to Friday 08:00-09:30  S-116  Dr. L. Amer
Lab  Tuesday 01:15-02:45  S-148
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

Section A  Monday to Friday 09:45-11:15  S-116  Dr. D. Ahmed
Lab  Wednesday 01:15-02:45  S-138

CHEM 241: Organic Chemistry I (3+1 credits)
Prerequisite: F.Sc. or A-Level Chemistry
Acids and bases in Organic Chemistry, Chemistry of Carboxylic acids and their derivatives, Chemistry of alkyl halides including nucleophilic substitution and elimination reactions, Mechanism Chemistry of amines and their derivatives.

Section A  Monday to Friday 08:00-09:30  S-216  Dr. M. I. Aulja
Lab  Monday 01:15-02:45  S-135
Section B  Monday to Friday 09:45-11:15  S-215  Dr. S. Jelani
Lab  Monday 01:15-02:45  S-138

CHEM 310: Biochemistry (3+1 credits)
Open to Junior Year Students
Detailed structure and physiological function of primary metabolites including carbohydrates, proteins, lipids, nucleic acids and nature and role of enzymes and coenzymes, mechanism of enzyme action, kinetics and regulation of enzymes.

Section A  Monday to Friday 11:30-13:00  S-116  Dr. D. Ahmed
LAB  Tuesday 01:15-02:45  S-135

CHEM 452: Elementary Group Theory (2 credits)
Prerequisite: CHEM 331 or CHEM 351
Symmetry: Symmetry elements and operation, Point groups, Matrices, group representation and character tables, Reducible and irreducible representations, Application of group theory (in bonding and IR etc.)

Section A  Monday to Wednesday 09:45-11:15  S-119  Dr. C. Munir
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  Monday to Friday 11:30-01:30  S-218  Z. Shah

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 to Friday 11:30-01:00  S-316  B. A. Bajwa

COMP 301: Operating Systems  
(3 credits)
Prerequisite: COMP 200, COMP 206
The objective of the course is to give students knowledge of the construction and working of operating systems, and to enable students to understand management and sharing of the computer resources communication and concurrency. Develop effective and efficient applications and also appreciate the problems and issues regarding multi-user, multi-tasking, and distributed system.

Section A  Monday to Friday 11:30-01:00  S-120  A. Imtiaz

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 to Friday 08:00-09:30  S-319  Z. Shah
Section B  Monday to Friday 09:45-11:15  S-319  A. Imtiaz
Section C  Monday to Friday 08:00-09:30  S-219  TBD
Section D  Monday to Friday 09:45-11:15  S-219  B. A. Bajwa
Section E  Monday to Friday 08:00-09:30  S-218  TBD
Section F  Monday to Friday 11:30-01:00  S-219  A. H. Zahid
CSSE 350: Object Oriented Analysis and Design (3 credits)
Prerequisite: CSSE 301
Exploit the rich object-oriented modeling provided by Unified Modeling Language (UML). Adapt to changing requirements with iterative techniques and component-based design. Design solutions optimized for modern object-oriented languages and platforms. Apply proven design patterns, design heuristics, and-patterns and refractory techniques to refine analysis and design models. Construct unit and system tests to verify your implemented designs.

Section A Monday to Friday 09:45-11:15 S-316 S. Mahmood

CSIT 301: Web Application Development (3 credits)
Prerequisite: COMP 205 COMP 213, COMP 220
The courses addresses the concepts, methods, technologies, and techniques of developing web applications that collect, organize and expose information resources. Topics covered include Web application architectures, Design methods and technologies, interface design, usability of web applications, accessibility, Testing metrics, Operation, Deployment and maintenance of web applications and security. It will prepare students for both current and future web technologies.

Section A Monday to Friday 01:15-02:45 S-120 A. H. Zahid

CSIT 312: System and Network Administration (3 credits)
Prerequisite: COMP 205 and COMP 311
A survey of the tools and techniques used in the administration and management of computing systems and networks. File systems and Directory permission structure. User account administration, Client administration, Remote access and remote administration. Run levels and services. Network services configuration. Defining security, Firewalling, Defending against malicious users.

Section A Monday to Friday 09:45-11:15 S-218 TBD

CSIT 400 / CSSE 405: Human Computer Interaction (3 credits)
Prerequisite: COMP 205 and COMP 220
Uses insights form psychology and cognitive science to explore the differences in information processing by humans and machines. Focuses on the design of humans-computer interfaces and systems involving both human and computer components.

Section A Monday to Friday 11:30-01:00 S-210 S. Mahmood
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 to Friday 09:45-11:15  E-214  Dr. S. Haider
Section B  Monday to Friday 11:30-01:00  E-214  Dr. S. Haider
Section C  Monday to Friday 08:00-09:30  E-105  A. Naveed

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 to Friday 08:00-09:30  E-214  U. Hanif
Section B  Monday to Friday 09:45-11:15  E-221  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  Monday to Friday 11:30-01:00  E-221  S. A. Abbas
Section B  Monday to Friday 08:00-09:30  E-332  A. J. Khan

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.

Section A  Monday to Friday 08:00-09:30  E-202  Dr. B. Aziz
Section B  Monday to Friday 11:30-01:00  E-202  Dr. B. Aziz
ECON 201: Microeconomics II
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.

Section A  Monday to Friday 09:45-11:15  E-202  Dr. B. Aziz

ECON 202: Macroeconomics II
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.

Section A  Monday to Friday 08:00-09:30  E-221  S. A. Abbas
Section B  Monday to Friday 11:30-01:00  E-102  A. Naveed

ECON 203: Statistics for Economists
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.

Section A  Monday to Friday 09:45-11:15  E-332  A. J. Khan

ECON 210: Islamic Banking and Finance
Prerequisite: ECON 102
An introductory understanding regarding Islamic economics would be offered to the students, The nature and methodology of Islamic economics, Islamic banks, zakat insurance, Modes of Islamic finance, Financing public expenditure in an Islamic perspective, Risk management in Islamic financial market, Interest free banking, And Islamic capital market products.

Section A  Monday to Friday 08:00-09:30  N-208  Dr. R. Ahmed
Section B  Monday to Friday 09:45-11:15  N-208  Dr. R. Ahmed

ECON 300: Fundamentals of Econometrics
Prerequisite: ECON 201,202 and 203
Nature and methodology of Econometrics, Regression analysis and ordinary least squares, Dummy variable regression models, Relaxing the assumption of classical model, Multicollinearity, Hetroscedasticity and Autocorrelation, WLS and GLS, Model specification and diagnostic testing.

Section A  Monday to Friday 08:00-09:30  E-203  Z. Iqbal
**ECON 302: Research Methods and Computer Applications**  
(3 credits)  
*Prerequisite: ECON 300*  
Methods and methodologies of research used in Economics; Techniques of investigation; Data collection methods; Research design; Sampling; Report writing and use of econometric softwares.

Section A  
Monday to Friday 11:30-01:00  
E-203  
Z. Iqbal

**ECON 307: International Trade Theory and Policy**  
(3 credits)  
*Prerequisite: ECON 201 and 202*  
Theories of absolute and comparative advantage; Hecksher-Ohlin and Rybsynsky theorem; Factor endowments; Factor intensities; Factor prices and distribution; Tariffs, quotas and dumping; Imperfect competition and returns to scale; Commercial policies their objectives and impacts; Trade agreements and trade control.

Section A  
Monday to Friday 09:45-11:15  
E-105  
G. Shabbir

**ECON 400: Issues in Pakistan Economy**  
(3 credits)  
*Prerequisite: ECON 202*  
Leading issues in Pakistan economy; Political economy; Growth, income distribution and poverty; State of inflation and unemployment; Growth and development issues of major sectors; Fiscal and monetary policy; Balance of payments and budget deficit; Foreign trade and aid; Internal and external debt; Money and capital markets; And Human resource development.

Section A  
Monday Friday 11:30-01:00  
E-105  
Dr. M. Asalm

**ECON 408: Internship**  
(6 credits)  
*The internship is offered to the juniors/seniors with CGPA 3.00 or higher*  
Credit will be granted for a full time internship of at least six weeks during summer vacations. Internship credit is not retroactive and must be prearranged with the head, department of Economics. The students must provide verification of the completion of internship on institution's letterhead of the institution latter than one week after such completion. The grading for internship will be done by the Chairman on the basis of the written report by the student.

**ECON 417: International Finance**  
(3 credits)  
*Prerequisite: ECON 307*  
Introduction and foundations of International Finance; Foreign exchange market and exchange rate determination models; International parity conditions: Purchasing power parity; Covered and uncovered interest parity; International financial market and their macroeconomic implications and international monetary system; Global capital market and developing countries; Financial crisis and international financial institution (IMF, World Bank and ADB); Role and Impacts.

Section A  
Monday to Friday 11:30-01:00  
E-332  
G. Shabbir
ECON 422: Macroeconomics Analysis  (3 credits)

Prerequisite: ECON 202

New Keynesian, new classical foundations and debate. Open Economy; Mundell-Fleming model rational exceptions; Macroeconomic debate; Economic fluctuations and its sources in open economy; Fiscal-Monetary policy and economic stability; Economic fluctuations: catastrophe theory; Random walk; Real business cycle theory; Dynamic consumption; Investment; Government debt and Ricardian equivalence.

Section A  Monday to Friday 09:45-11:15  E-203  Z. Iqbal
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.

Section A Monday to Friday 08:00-09:30 N-217 Dr. Dubsh
Section B Monday to Friday 11:30-01:00 E-331 A. Rashid
Section C Monday to Friday 09:45-11:15 N-215 A. Arshad

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.

Section B Monday to Friday 09:45-11:15 E-331 A. Rashid

EDUC 350: Classroom Management (3 credits)
An understanding of the dual roles of the teacher as an instructor and manager. Strategies from various approaches in order to provide a rich repertoire of management choices; proactive, Responsive and Supportive classroom management strategies.

Section A Monday to Friday 09:45-11:15 N217 Dr. Dubash

EDUC 365: Teaching Science at the Secondary Level (3 credits)
Methods and techniques specific to teaching Biological, Chemistry and Physics to the secondary grades; A hands-on approach.

Section A Monday to Friday 08:00-09:30 N-215 A. Arshad

EDUC 430: Student Teaching Experience (12 credits)
Prerequisite: EDUC 110, 120, 300, 350
An extended field-based course with real-life experience in the classroom; All aspects of the teaching-learning process will be looked at from a perspective.

Section A Monday to Friday 11:30-01:00 N-217 Dr. Dubash

EDUC 440: Senior Seminar in Education (3 credits)
Prerequisite: EDUC 110
Co requisite: EDUC 430
Discussion based course for education majors who are completing their student-teaching experience. Discussion to be based on current rends in education and questions arising from their teaching experience. Current trends in education; Questions and concerns arising from student-teaching experiences.

Section A Monday to Friday 11:30-01:00 N-217 Dr. Dubash
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.

Section A    Monday to Friday 08:00-09:30    E-204    J. J. Austin
Section B    Monday to Friday 09:45-11:15    E-222    A. Gill
Section C    Monday to Friday 11:30-01:00    E-204    S. Raees
Section D    Monday to Friday 09:45-11:15    N-208    F. Zaheer

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.

Section A    Monday to Friday 08:00-09:30    E-205    R. John

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 to Friday 09:45-11:15    E-205    S. Raees
Section B    Monday to Friday 11:30-01:00    E-205    F. Syeda
Section C    Monday to Friday 08:00-09:30    E-101    A. Bushra
Section D    Monday to Friday 09:45-11:15    E-204    J. J. Austin

ENGL 301: The 19th Century English Novel (3 credits)
This is a representative course of 19th century novel and will focus on the different characteristics of Victorian culture, literature and history and will also explore ambition, enlightenment, social, moral and economic issues of 19th century.

Section A    Monday to Friday 11:30-01:00    N-208    F. Zaheer
ENGL 303: Introduction to Linguistics  (3 credits)
Theoretical concepts and empirical findings of modern linguistics on a non-technical level. Highlights the connection between linguistics and other disciplines and looks at how the study of language opens up new dimensions in the understanding of related disciplines.

Section A  Monday to Friday 08:00-09:30  E-222  A. Gill

ENGL 307: Drama I  (3 credits)
This course brings a critical awareness of drama as a genre or a tradition with focus on its mutation from classical to Elizabethan age onwards. It further highlights what classical models are followed to make a play a “Well-written” play.

Section A  Monday to Friday 09:45-11:15  E-101  W. Azeem

ENGL 401: Modern Drama  (3 credits)
The course offers a critical examination of the major writes of modern drama such as Brecht, Beckett, Miller and Pinter with particular reference to themes such as absurd-ism, naturalism, and expressionism.

Section A  Monday to Friday 09:45-11:15  E-121  Dr. W. Anwar

ENGL 403: Contemporary Literary Criticism:  (3 credits)
This course specifically focuses on the latest trends in literary criticism and theory. With their background in classical theoretical concepts, the students will learn how the contemporary literary criticism influences and interprets with diverse literary genres.

Section A  Monday to Friday 11:30-01:00  E-231  Dr. W. Anwar

ENGL 404: English Poetry II  (3 credits)
The course deals with contemporary forms of poetry written in English in different part of the world. The readings will help students understand how poetry has developed as a mix-genre technique in our times.

Section A  Monday to Friday 08:00-09:30  N-209  W. Azeem

ENGL 407: Pakistani and Indian Literature in English  (3 credits)
This course offers a study of the sub continental Indo-Pak writers writing in English. In its own way the course deals with issues regarding identity and nationalism in relation to the colonial and post-colonial emerging conditions.

Section A  Monday to Friday 09:45-11:15  E-231  F. Syeda
ENVIRONMENTAL SCIENCES

ENVR 498: Internship  (6 credits)
Coordinator's permission required
Prerequisite: Students with CGPA 2.75 or above are eligible.
Internship offered to students majoring in environmental sciences with concentration in biological sciences. Internship will start at the end of summer 2012 semester end. Its duration will be 6 weeks.

ENVR 499: Research  (6 credits)
Coordinator's permission required
Prerequisite: Students with CGPA 2.75 or above are eligible.
Research is offered to students majoring in environmental sciences with concentration in biological sciences. Students can take summer courses and carry out research simultaneously.
GEOGRAPHY

GEOG 101: Fundamentals of Geography  
(3 credits)  
Builds perspective about Geography as a discipline, familiarizes its thematic domains and fundamental concepts.

Section A  Monday to Friday 08:00-09:30  E-227  Z. Jameel  
Section B  Monday to Friday 09:45-11:15  E-227  K. Shafique

GEOG 133: Geographical Profile of Pakistan  
(3 credits)  
It relates to major features of the physical environment, resources, culture, communications and trade of Pakistan. Analyses the major problems confronted by Pakistan relating to cross cultural relationship, socio-economic viability, environmental conservation, resource sustainability and development.

Section B  Monday to Friday 09:45-11:15  A-002  Z. Jamil

GEOG 351: Physical Geography Seminar  
(2 credits)  
Prerequisite: GEOG 210  
It comprises of the departmental seminar investigating a selected field of Physical geography. (Topic announced by the chair, prior to registration.)

Section B  Monday to Friday 1130-12:30  A-002  K. Shafique
HEALTH AND PHYSICAL EDUCATION

HPED 104: Swimming for Beginners (for boys)  (1 credit)
This course teaches the basics of freestyle swimming.

Section A  Tuesday, Thursday 09:45-11:15  L. Centre  B. Kami

HPED 105: Volleyball (for boys)  (1 credit)
The game of Volleyball is a combination of passing, blocking and smashing and requires strength, endurance, and agility. It is a team game.

Section A  Tuesday, Thursday 08:00-09:30  L. Centre  S. Nazir
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.

Section A  Monday to Friday 08:00-09:30  S-212  K. Jawad
Section B  Monday to Friday 09:45-11:15  S-212  K. Jawad
Section C  Monday to Friday 11:30-01:00  S-212  S. Sumbal
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.

Section A  Monday to Friday 08:00-09:30  E-213  N. Sahar
Section B  Monday to Friday 09:45-11:15  E-213  N. Sahar
Section C  Monday to Friday 11:30-01:00  E-213  N. Sahar
Section D  Monday to Friday 08:00-09:30  E-228  R. Hassan
Section E  Monday to Friday 09:45-11:15  E-228  R. Hassan
Section F  Monday to Friday 11:30-01:00  E-228  R. Hassan
Section G  Monday to Friday 08:00-09:30  E-229  K. Hameed
Section H  Monday to Friday 09:45-11:15  E-229  K. Hameed
Section J  Monday to Friday 11:30-01:00  E-229  K. Hameed

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.

Section A  Monday to Friday 08:00-09:30  E-230  J. Ghauri
Section B  Monday to Friday 09:45-11:15  E-230  J Ghauri

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.

Section A  Monday to Friday 08:00-09:30  E-103  Dr. S. Abbas
Section B  Monday to Friday 09:45-11:15  E-103  Dr. S. Abbas

MCOM 301: Press Laws and Ethics (3 credits)
Prerequisite: MCOM 201
Evolution of press laws with special reference to the Sub-continent and Pakistan; A critical analysis of the current press and publication regulations; PEMRA laws pertaining to the electronic media in Pakistan; Freedom of expression; Defamation laws; Contempt of court; Contemporary trends in copyright law and the concept of intellectual property rights; Code of ethics for journalists from Western and Islamic perspectives.

Section A  Monday to Friday 09:45-11:15  E-104  A. Somroo
Section B  Monday to Friday 11:30-01:00  E-104  A. Somroo
**MCOM 309: Media History**  
(3 credits)  

Section A  
Monday to Friday 11:30-01:00  
E-230  
J. Ghauri

**MCOM 310: Mass Communication Studies**  
(3 credits)  
Prerequisite: MCOM 301  
Definitions, types, elements and models of communication and mass communication, features and functions of mass communication, media literacy, public opinion and propaganda, two-step flow of communication, barriers in communication, essentials of effective communication, gate-keeping and information control, the role of the opinion leader, current media trends, mass media and culture, mass media and society, mass media effects debates.  

Section A  
Monday to Friday 08:00-09:30  
E-104  
A. Somroo

**MCOM 401: Radio Broadcasting: A Theoretical Introduction**  
(3 credits)  
Prerequisite: MCOM 301  
Origin and development of radio in the Subcontinent; Functions of broadcasting house; Role in national development; Distinctive features of radio news; Interviewing for radio; Duties of a radio producer; Trends in FM radio in public and private sector in Pakistan  

Section A  
Monday to Friday 11:30-01:00  
E-103  
Dr. S. Abbas
# 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.

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<th>Section</th>
<th>Time</th>
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<th>Instructor</th>
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<tr>
<td>A</td>
<td>Monday to Friday 08:00-09:30</td>
<td>S-412</td>
<td>K. Azhar</td>
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<td>B</td>
<td>Monday to Friday 09:45-11:15</td>
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<td>C</td>
<td>Monday to Friday 08:00-09:30</td>
<td>S-413</td>
<td>F. Jamil</td>
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<td>D</td>
<td>Monday to Friday 11:30-01:00</td>
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<td>F. Jamil</td>
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## 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.

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<tr>
<td>A</td>
<td>Monday to Friday 08:00-09:30</td>
<td>S-317</td>
<td>M. Asghar</td>
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<td>B</td>
<td>Monday to Friday 09:45-11:15</td>
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<td>M. Asghar</td>
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## 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.

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<td>S-412</td>
<td>K. Azhar</td>
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## MATH 103: Introductory Linear Algebra  (3 credits)
*Prerequisite: MATH-101 or A-Level Mathematics or Intermediate Mathematics*
Matrices, Determinants, System of linear equations, Homogeneous and non-homogeneous system, Vector spaces, Subspaces, Linear independence, Basis and dimensions.

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<tr>
<td>A</td>
<td>Monday to Friday 09:45-11:15</td>
<td>S-413</td>
<td>Dr. M. Qureshi</td>
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## MATH 403 / CSCS 403*: Graph Theory  (4 credits)
*Prerequisite: MATH106 / COMP 113*
Graphs, Sub graphs, Isomorphism, trees, Connectivity, Euler and Hamiltonian Properties, matching Vertex and edge colorings and planarity.

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<tr>
<td>A</td>
<td>Monday to Friday 08:00-09:30</td>
<td>S-316</td>
<td>B. Bajwa</td>
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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 to Friday 11:30-01:00  S-112  Dr. G. Irfan
**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.

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<tbody>
<tr>
<td>Section A</td>
<td>Monday to Friday 11:30-01:00</td>
<td>S-007</td>
<td>Dr. S. Aslam</td>
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<tr>
<td>Lab</td>
<td>Monday 01:15-02:45</td>
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<td>Section B</td>
<td>Monday to Friday 09:45-11:15</td>
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<td>Dr. S. Aslam</td>
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<td>Lab</td>
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<td>Section C</td>
<td>Monday to Friday 08:00-09:30</td>
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<td>S. I. Hussain</td>
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<td>Lab</td>
<td>Wednesday 01:15-02:45</td>
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**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

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<tr>
<td>Section A</td>
<td>Monday to Friday 08:00-09:30</td>
<td>S-109</td>
<td>D. Yousaf</td>
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<td>Lab</td>
<td>Monday 01:15-02:45</td>
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<td>Section B</td>
<td>Monday to Friday 09:45-11:15</td>
<td>S-109</td>
<td>M. Nawaz</td>
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<tr>
<td>Lab</td>
<td>Tuesday 01:15-02:45</td>
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<td>Section C</td>
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<td>S. A. Anwar</td>
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<td>Lab</td>
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POLITICAL SCIENCE

PLSC 101: Introduction to Political Science  (3 credits)
A survey of the area 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.

Section A  Monday to Friday 08:00-09:30  S-213  Dr. M. Younis

PLSC 301: Ancient, Medieval and early Modern Political Theory  (3 credits)
Prerequisite: PLSC 101
A study of political thought from early Greece through the 17th Century. Using original sources from philosophers including Aristotle, Plato, Hobbes, Machiavelli, Locke, Rousseau and Hegel.

Section A  Monday to Friday 09:45-11:15  S-213  Dr. M. Younis
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.

Section A  Monday to Friday 08:00-09:30  S-115  S. Samuel
Section B  Monday to Friday 09:45-11:15  S-115  S. M. Khan

PSYC 290: Consumer Psychology  (3 credits)
Prerequisite: PSYC 100
Methods of studying consumer behavior, basic psychological concepts concerning consumer behavior such as perception, Cognitive, Learning attitude, Cognitive dissonance, Risk-taking, Motivation and personality of the buyer. Emphasis on the interrelations of economics and socio-cultural factors on decision-making including recent research finding. Consumer psychology in Pakistan.

Section A  Monday to Friday 11:30-01:00  S-115  S. M. Khan

PSYC 305: Research Methods in Psychology  (3 credits)
Prerequisite: PSYC 100 and PSYC 220
Basic understanding of research methodology. History of scientific approach, basic elements, methods, design and structure of research with emphasis on data collection, analysis interpretation; writing reports and ethics of social science research. A small research project will be required-individually or in a group.

Section A  Monday to Friday 08:00-09:30  S-112  R. Zahir

PSYC 360: Psychological Measurement and Testing  (3 credits)
Prerequisite: PSYC 100
Functions, origins and basic concepts of psychological testing; test construction, ability/intelligence and personality testing, application of psychological tests in educational, occupational and clinical contexts; ethical issues.

Section A  Monday to Friday 09:45-11:15  S-112  R. Zahir

PSYC 470: Internship  (3 credits)
Prerequisite: PSYC 100 and a minimum CGPA 2.75
The course is intended to serve as a “bridge” between college/university and career. Internships through the Psychology department are intended to help[ students to achieve valuable training and work experiences, and to provide a meaningful link between formal courses work and applied professional work. The culmination and tangible product of this internship will be portfolio containing evidence of what students have done and learned during this course.

Section A  Monday to Friday TBD  TBD  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.

Section A Monday to Friday 09:45-11:15 E-126 H. A. Ghani

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.

Section A Monday to Friday 08:00-09:30 E-126 Dr. F. Aziz

ISLM 201: Tajweed-Ul-Quran (3 credits)
Prerequisite: ISLM101
This subject is intended to teach the students how to read and recite the Holy Quran. The course deals with speech sounds of Arabic, Qiraat, Arabid phonology, Articulations and accent, Pronunciation.

Section A Monday to Friday 09:45-11:15 E-122 H. U. Rehman

ISLM 301: Hadith- Status, Origin and Development (3 credits)
Prerequisite: ISLM101
This subject provides an introductory study of Ulum-al-Hadith (major collections, jarh wa ta’dill) authenticity of the sayings of the Prophet (PBUH). Importance of Sunnah, codification and compilation of early Hadith literature, review of Hadith collections and reading of selected chapters from Hadith books.

Section A Monday to Friday 08:00-09:30 E-122 H. U. Rehman

ISLM 302: Islamic Jurisprudence (3 credits)
Prerequisite: ISLM101/CRST152
This subject introduces students to the definition of law sources of Islamic Sharia, (Qur’an Sunnah, Ijma, Qiyas, Ijtihaad), types of Islamic law, Islamic injunctions and family law. The course provides fundamental study of Islamic law and jurisprudence with its historical development.

Section A Monday to Friday 08:00-09:30 E-330 A. Rehman
ISLM 304: Seerat-Un-Nabi  
(3 credits)
Prerequisite: ISLM101
This course aims to provide an understanding of how the development biographical studies of the prophet Muhammad (PBUH) influenced Islamic thought throughout Islamic history. The course will examine the Prophet as an example to be followed; the difference between the Prophet’s tradition (Hadith) and his biography (seerah); the Prophet’s life before his mission; the early period of Makkah where he faced opposition; migration to Madinah; establishment of Islamic State in Madinah; treaties and relations with Non-Muslims; Ghazwaat and conquest of Makkah; last sermon and its impact on modern human life.

Section A  Monday to Friday 09:45-11:15  E-324  A. Rehman

ISLM 306: Religion and Science  
(3 credits)
Prerequisite: ISLM101/CRST152
Modern western empirical science has surely been the most impressive intellectual development since the 16th century. Religion, of course, has been around for much longer, and is presently flourishing, perhaps as never before. The relation between these two great cultural forces has been tumultuous, many-faceted, and confusing. There are many important issues and questions in this neighborhood; this course concentrates on just a few. Perhaps the most salient question is whether the relation between religion and science is characterized by conflict or by concord. This question will be the central focus of this course. Other important issues to be considered are the nature of religion, the nature of science, the epistemologies of science and, in particular, of religious belief, and the question how the latter figures into the (alleged or actual) conflict or concord between religion and science.

Section A  Monday to Friday 11:30-01:00  E-126  H. A. Ghani

ISLM 402: Islam and the West  
(3 credits)
Prerequisite: ISLM101/CRST 152
Islam is a major factor in global affairs and the study of Islam is an increasingly valuable part of academic and non-academic studies. The majority of Western leading scholars of religion have been studying Islam for centuries. Many western universities are offering degree programs and courses on Islamic Studies. They have addressed the topics such as the Quran, the Hadith, Islamic law, Biography of the Holy Prophet, Sufism, Women in Islam etc. Despite this, very little attention has been given to the basic question how islam should be taught and understood. Through this course western understanding of Islam is evaluated.

Section A  Monday to Friday 11:30-01:00  E-122  Dr. F. Aziz
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 individuals, group and societal levels. The global focus of the courses uses the tools of Sociology to look at the variety of issues around the world. The course provides an opportunity to both learn about basic sociological approaches and to do some sociological research.

- **Section A**  Monday to Friday 08:00-09:30  E-323  S. Jabeen
- **Section B**  Monday to Friday 09:45-11:15  E-323  S. Jabeen

**SOCL 498: Internship**  (3 credits)
Prerequisite: Only available to Sociology majors and minors who have taken SOCL 100, 201 and 301 and who have a minimum CGPA of 2.75
An internship in an organization which utilizes the skills learnt in the study of Sociology.
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 to Friday 09:45-11:15  S-421  Dr. M. Aslam
Section B  Monday to Friday 08:00-09:30  S-421  A. Mughal

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  Monday to Friday 09:45-11:15  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 to Friday 08:00-09:30  S-420  Dr. M. Aslam
Section B  Monday to Friday 11:30-01:00  S-420  Dr. M. Rasul

STAT 103: Quantitative methods in social sciences (3 credits)
Application of Statistical methods in Social Sciences. Data analysis using SPSS.

Section A  Monday to Friday 01:15-02:45  S-319  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.

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URDU 201: A brief History of Urdu language and Literature  
(3 credits)
Introduction to Urdu language and theories regarding its origin; phases and trends in Urdu literature up till the 20th Century: Urdu in Delhi and Lucknow; evolution of Urdu Prose.

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URDU 204: Urdu Grammar and Literary Terms  
(3 credits)
Ilm-ul-Bayan: Ilm-ul-Badih, Adabi Istalahat

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URDU 208: Script Writing in Urdu  
(3 credits)
Documentary writing: Program scripts, Journalistic scripts, Business scripts, Drama and Film scripts.

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URDU 302: Criticism  
(3 credits)
Basic principles and definition of criticism; Oriental criticism; Western criticism; Practical criticism.

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URDU 306: Travelogues in Urdu  
(3 credits)

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URDU 403: Modern Literary Movements in Urdu:  
(3 credits)

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