



Undergraduate Programs

Leadership and Ideas for Tomorrow



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The BBA Program

The BBA Philosophy

A Bachelor of Business degree prepares you for an entry level position in business and industry. A Bachelor of Business degree teaches students about management, marketing principles, accounting, mathematical statistics and business law. The degree allows the students to enter the business field as educated workers and provides them with an opportunity to explore the possible areas of specialization. A Bachelor of Business degree is essential for advancement in business and industry. Successful completion ensures that the graduate understands the relationship between marketing, quantitative analysis, accounting, economics, and human resources.

Why a BBA Degree?

Why do you need a BBA degree as compared to a Bachelor degree in any other discipline? The answer to this question is very simple. There has been a tremendous growth in industry and commerce. The world has witnessed a sustained period of economic growth and prosperity. This has led to create entry level positions in business and finance. Although business needs leaders to move forward, they also need skilled workers in putting their ideas forward. A BBA degree will help you with a solid foundation to establish your career. A BBA degree ensures that you have professionally relevant skills that will help you perform your job in a better manner.

A BBA degree will give you the opportunity to help implement the concepts and ideas designed by the business leaders. It will help you get the hands-on experience that leads to future challenges and resulting promotions.

Why a BBA Degree from IBA?

The Institute of Business Administration (IBA), Karachi was established in 1955 as a USAID financed project. Initially the Wharton School of Finance, University of Pennsylvania, provided the technical support; later, the University of Southern California got the contract to set up various facilities at the Institute and several prominent American professors were assigned to the IBA. A large number of Pakistani faculty members received advanced degrees from the Wharton and the University of Southern California. Till 1994, the University of Karachi awarded degrees to IBA graduates. In that year, Sind Assembly elevated the Institute's status to a degree awarding

institution. In spite of a rapid increase in the number of business schools, the IBA has maintained its position as the premier institution of higher learning in the field of management and business administration. The IBA initially offered programs only for Masters for MBA. In 1982, a three-year BBA (Honors) Program was introduced, which has now been upgraded to a four-year BBA program.

The IBA faculty comprises of teachers with high academic achievements as well as successful, practical business management experience. Most have advanced degrees in their fields of specialization from foreign institutions of repute. The faculty members are well-regarded for their insight and command over current issues facing business and industry. They are frequently invited to participate in seminars, symposiums, discussions and conferences across the country and overseas. The faculty ensures that the system of education at the IBA is a unique blend of the best in classroom instruction, case studies, role-playing, business games, class presentations, research and practical training in business organizations.

In view of the increasing professionalism in management and growing competition in Pakistan, job opportunities for qualified business administration graduates will continue to grow. Multinational firms and professionally managed Pakistani companies hire IBA degree holders with confidence because of the high level of professionalism instilled in them during their course of study. The Institute offers a flexible curriculum, diverse student body and faculty that are willing to embrace and encourage new ideas. This provides the students with tools, values, and confidence to be leaders in the organizations of today and tomorrow.



Curriculum

Core Courses of BBA

Core Courses	42*
Elective	7
Total Number of Courses	49
Duration	4 Years
Credit Hours	144

SEMESTER 1

Core Courses

Principles of Microeconomics	ECO103
English Grammar & Composition	SSC101
Information Management	MGT111
Foundations of Human Behaviour	SSC102
College Algebra	MTS105
Introduction to Computer Applications	MIS103

SEMESTER 2

Core Courses

Principles of Accounting I	ACC111
Principles of Macroeconomics	ECO113
International Relations	HUM131
Social Psychology and Self Development	SSC103
Introduction to Statistics	MTS102

Students must take one **Social Sciences Elective Course** from 100 level from the following:

Pakistan History	SSC151
General History	SSC152
Media Studies	SSC153
Research Methods in Social Sciences	SSC154
History of Ideas	SSC156

*Students specializing in MIS will take 24 core courses in common with other specializations and undertake 17 MIS specialization courses.

Program Coordinators



Aman U. Saiyed

BBA Morning

*Main Campus, Extension No. 217
City Campus, Extension No. 1313*



Dr. Zaheeruddin Asif

BS (CS), MBA (MIS), BBA (MIS)

*Main Campus, Extension No. 205
City Campus, Extension No. 1635*

Core Courses of BBA

SEMESTER 3,4,5,6,7 & 8

Students in semester 3,4,5,6,7 & 8 may choose a minimum of 4 core or elective courses per semester from the lists provided below, provided that they have met the prerequisite requirement.

Lists of Core Courses

Principles of Accounting II	ACC201
Managerial Accounting	ACC381
Business Law	LAW205
Corporate Law	LAW204
Management Information Systems	MIS102
Introduction to System Administration	MIS344
Business Mathematics	MTS103
Calculus I	MTS131
Statistical Inference	MTS202
Analysis of Pakistani Industries	ECO211
Development Economics	ECO301
Management & Organization of Pakistan's Economy	ECO311
Econometrics	ECO440
Introduction to Business Finance	FIN201
Financial Institutions and Markets	FIN301
Financial Management	FIN401
Principles of Management	MGT201
Business Communication	MGT211
Organizational Behavior	MGT221
Ethics in Corporate Society	MGT301
Production and Operations Management	MGT311
Small Business Management	MGT401
Comparative Management	MGT411
Entrepreneurship	MGT421
Managerial Policy	MGT501
Human Resource Management	HRM401
Principles of Marketing	MKT201
Methods in Business Research	MKT301
Marketing Issues in Pakistan	MKT401
Speech Communication	SSC201
Socioeconomic Philosophy of Islam	SSC301

MIS Specialization

Students wishing to specialize in the area of Management Information Systems (MIS) will be given a balanced exposure to business, computer science and MIS subjects. They will be required to take 22 core business courses along with 16 core MIS courses and 10 electives, which may be either business or MIS courses. In the first year, students will take courses according to the given schedule. After the second semester, the courses may be taken in any order provided the relevant prerequisites have been met. Normal course load is six courses per semester.

Core Business Courses

Principles of Accounting I	ACC111
Principles of Accounting II	ACC201
Principles of Microeconomics	ECO103
Principles of Macroeconomics	ECO113
Introduction to Business Finance	FIN201
Financial Management	FIN401
Human Resource Management	HRM401
Business Law	LAW205
Information Management	MGT111
Principles of Management	MGT201
Organizational Behavior	MGT221
Ethics in Corporate Society	MGT301
Principles of Marketing	MKT201
Marketing Issues in Pakistan	MKT401
Calculus I	MTS101
Introduction to Statistics	MTS102
College Algebra	MTS105
Statistical Inference	MTS202
English Grammar & Composition	SSC101
Foundations of Human Behavior	SSC102
Social Psychology and Self Development	SSC103
International Relations	SSC131

Core MIS Courses

Introduction To Programming	CSE141
Object Oriented Programming Techniques	CSE142
Data Communication & Networking	CSE243
Data Structures and Algorithms	CSE246
Web Based Application Development	CSE308
Database Systems	CSE341
Management Information Systems	MIS102
Introduction to Computer Applications	MIS103
Technical Report Writing	MIS202
Systems Analysis And Design	MIS211
Information Systems Development	MIS241
Decision Support Systems	MIS302
Business Process Modeling & Simulation	MIS304
Software Project and Quality Management	MIS305
Data Warehousing	MIS343
Change Management & Business Process Reengineering	MIS402
MIS Project	MIS491

Students specializing in MIS need to take ten electives. These may be chosen from any undergraduate courses offered by IBA provided their prerequisites have been met.

Electives

ACCOUNTING

Activity Based Costing & Management	ACC551
Advanced Financial Accounting	ACC556
Auditing Theory & Practice	ACC557
IAS & Financial Reporting in Pakistan	ACC559
Analysis of Financial Statements	ACC561
Accounting Information System	ACC563
Cost Management Systems, Design & Control	ACC564

ECONOMICS

Environmental and Resource Economics	ECO
Financial Economics	ECO
Game Theory	ECO
Game Theory and Competitive Strategy	ECO
Health Economics	ECO
Industrial Economics	ECO
Islamic Economics	ECO
Regulatory Economics	ECO
Transport Economics	ECO

OPERATIONS MANAGEMENT

Quantitative Methods for Business Decisions	OPS501
Operations Strategy	OPS502
Information Technology as an Integrating Force in Mfg.	OPS503
Six Sigma Simulation	OPS504

LAW

Globalization & International Law	LAW551
Banking Law	LAW552

COMPUTER SCIENCE & ENGINEERING

Object Oriented Design & Implementation	CSE311
Compiler Designer	CSE344
Principles of Programming Languages	CSE406
Modeling & Simulation	CSE443
Microprocessor Interfacing	CSE448
Network Security	CSE455
Image Analysis & Computer Vision	CSE553
Pattern Recognition	CSE554
Robotics	CSE555
Advance Topics on Computer Networking	CSE557
Mobile Computing	CSE558

MARKETING

Advertising	MKT551
Consumer Behavior	MKT552
Export Marketing	MKT553
Personal Selling	MKT554
International Business	MKT555
Sales Management	MKT556
Brand Management	MKT561
Seminar in Marketing	MKT562

FINANCE

E-Banking	FIN522
International Finance	FIN551
International Financial Management	FIN552
Security Analysis	FIN553
Investment Analysis and Portfolio Management	FIN554
Corporate Finance	FIN555
International Banking	FIN557
Regulation of Financial Markets	FIN558
Entrepreneurial and Small Business Finance	FIN572
Derivatives and Risk Management Techniques	FIN576
Seminar in Finance	FIN577
Liability Risk Management	FIN579
Life and Health Insurance	FIN580
Bank Marketing	FIN581
Risk Management in Banking	FIN583
Fixed Income Securities and Interest Rate Derivatives	FIN
Investment Banking and Financial Services	FIN590
Strategic Management of Credit Risk and Loan Policy	FIN

MATHEMATICS AND STATISTICS

Operations Research	MTS451
Mathematical Modeling and Its Application in Finance	MTS502

HUMAN RESOURCE MANAGEMENT

Employee Staffing and Training	HRM414
Personnel Research Techniques and Human Resources Information Systems	HRM425
Recruitment and Selection Techniques	HRM430
Training Techniques and Practices	HRM435
Design and Administration of Compensation Plans	HRM440

Electives

Occupational Health and Safety The Legal Environment	HRM445 HRM450
Foundations of Human Resource Development	HRM550
Industrial Relations Management	HRM551
Human Resource Development	HRM553
Compensation and Benefits Management	HRM554
Succession Planning	HRM555
Conflict Management	HRM556
Team Management	HRM557
Operational HRM	HRM559
Managerial Decision-Making	HRM560

MANAGEMENT INFORMATION SYSTEMS

Business Process Re-engineering	MIS402
Audit, Ethics & IS Issues	MIS454
Enterprise Resource Planning	MIS458
Customer Relationship Management	MIS459
Operations and Technology Management	MIS502
Enterprise Integration	MIS503
Information Industry Structure and Competitive Strategy	MIS513
Multidisciplinary Project - I	MIS591
Multidisciplinary Project - II	MIS592

MANAGEMENT

Management of Business-Government Relationship and Managerial Ethics	MGT551
Operations and Supply Chain Management	MGT553
Change and Innovation Management	MGT554
Project Management	MGT555
Seminar in Management	MGT571

SOCIAL SCIENCES

Pakistan History	SSC151
General History	SSC152
Media Studies	SSC153
Research Methods in Social Sciences	SSC154
History of Ideas	SSC156
Creative Writing	SSC251
Sociology	SSC252
Logic	SSC253
Anthropology	SSC254
Japanese, Chinese, German Introductory Language Courses	



BS in Computing Disciplines

Requirements for Bachelor of Science Degree Programs in Computing: BS(CS), BS(SE), BS(IT)

Required BS Courses

Section No.	Knowledge Area	Credit Hours
A	Computing - Core Areas	38
B	Computing - Supporting Sciences	12
C	General Education	15
	Sub Total	65

Major in Computer Sciences / Software Engineering / IT

Section No.	Knowledge Area	Credit Hours
D	Major - Core Courses	18
E	Major - Supporting Areas	9
F	Major - Electives	21
G	General Electives	18
	Subtotal	66
	Total*	131

*Please note that these are minimum credit requirements. Further credit requirements may be added in due course of the program.

BS in Computing Disciplines

Required Courses for BS in Computing

(Section A) Computing - Core Courses

S.No.	Subject Code	Course Title	Total	Semester
1	CSE145	Introduction to Computing	4	1
2	CSE141	Introduction to Programming	4	1
3	CSE142	Object-Oriented Programming Techniques	4	2
4	MTS201	Logic and Discrete Structures	3	2
5	CSE246	Data Structures and Algorithms	4	3
6	CSE208	Digital Logic Design (DL and Computer Arch)	3	3
7	CSE342	Operating Systems	4	4
8	CSE341	Database Systems	4	4
9	CSE312	Software Engineering (Introduction to Software Development)	3	5
10	CSE243	Data Communications and Networking	4	6
11	CSE491&492	Computer Science Project (I & II)	6	7,8
		Subtotal	46	

(Section B) Computing - Supporting Sciences

S.No.	Subject Code	Course Title	Total	Semester
12	MTS101	Calculus-I (Calculus and Analytical Geometry)	3	1
13	MTS102	Introduction to Statistics (Probability and Statistics)	3	2
14	SCI	Physics (Electromagnetism)	3	3
15	MTS203	Linear Algebra	3	4
		Subtotal	12	

(Section C) General Education

S.No.	Subject Code	Course Title	Total	Semester
16	SSC101	English Composition	3	1
17	SSC	One course from Group I	3	1
18	MIS202	Technical Report Writing	3	2
19	MGT211	Business Communication	3	3
20	MIS454	Audit, Ethics & IS Issues	3	8
		Subtotal	15	

Group I

S.No.	Subject Code	Course Title	Total	Semester
21	SSC151	Pakistan's History	3	
22	SSC152	General History	3	
23	HUM131	International Relations	3	
24	SSC	English Literature	3	
		Subtotal	12	

BS in Computing Disciplines

BS, Computer Science

(Section D.1) Computer Science - Core Courses

S.No.	Subject Code	Course Title	Total	Semester
1	CSE310	Computer Architecture and Assembly Language	3	4
2	CSE309	Theory of Automata	3	6
3	CSE209	Numerical Analysis and Algorithms (Analysis of Algorithms)	3	6
4	CSE307	Introduction to Artificial Intelligence	3	7
5	CSE	System Programming	3	6
6	CSE	Numerical and Symbolic Computation	3	7
		Subtotal	18	

(Section E.1) Computer Science - Supporting Areas

S.No.	Subject Code	Course Title	Total	Semester
7	SCI	Physics-II (Mechanics)	3	4
8	MTS232	Calculus-II (Multivariate Calculus)	3	4
9	MTS	Differential Equations	3	5
		Subtotal	9	

BS, Software Engineering

(Section D.2) Software Engineering - Core Courses

S.No.	Subject Code	Course Title	Total	Semester
1	CSE	Software Construction	3	4
2	CSE460	Human Computer Interaction (An SE Approach)	3	4
3	CSE	Software Design and Architecture	3	5
4	CSE	Software Quality Assurance	3	6
5	CSE312	Software Requirements Engineering	3	6
6	CSE	Software Project Management	3	7
		Subtotal	18	

(Section E.2) Software Engineering - Supporting Areas - 9 Credits (Electives)

S.No.	Subject Code	Course Title	Total	Semester
7	MTS232	Calculus-II (Multivariate Calculus)	3	4
8	MTS	Differential Equations	3	5
9	MTS	Numeric & Symbolic Computation	3	5-6
10	MTS	Stochastic Processes	3	6-7
11	SCI	Physics-II (Mechanics)	3	4
12	ECO	Software Engineering Economics	3	3-4
		Subtotal	18	

BS in Computing Disciplines

BS, Information Technology

(Section D.3) Information Technology - Core Courses

S.No.	Subject Code	Course Title	Total	Semester
1	CSE	Introduction to IT	3	
2	CSE	Web Engineering	3	
3	CSE	Systems Administration	3	
4	CSE	Network Management and Security	3	
5	CSE460	Human Computer Interaction	3	
6	MIS	Management of Information Technology (Technology Management)	3	
		Subtotal	18	

(Section E.3) Information Technology - Supporting Areas (Electives)

S.No.	Subject Code	Course Title	Total	Semester
7	MGT201	Principles of Management	3	3-4
8	MGT221	Organizational Behaviour	3	
9	MIS	Information Systems	3	
		Subtotal	9	

BS in Computing Disciplines

(Section F) BS Degree

Elective Computer Science Courses (Not Limited to the List Below)

S.No.	Subject Code	Course Title	Total	Semester
1	Numerical Computation	Numerical Computing	3	5
2	Computer Graphics	Computer Graphics	3	6
3	Software Engineering	Software Engineering-II	3	5
4	Languages & Translators	Compiler Construction	3	7
5		Principles of Programming Languages	3	4
6	Computer	Data Communications	3	6
7	Communications	Distributed Computing	3	6
8	Networks	Data and Network Security	3	7
9		Wireless Networks	3	8
10	Visual Programming	Visual Programming	3	7
11	Computer Architecture	Computer Architecture	3	
12		Mircoprocessor Interfacing	3	
13	Signal Processing	Digital Signal Processing	3	7-8
14		Digital Image Processing	3	7-8
15	Web Engineering	Web Engineering	3	5
16	Systems Software	System Programming	3	7
17	Database Systems	Distributed Database Systems	3	7
18		Data Warehousing	3	6-7
19	Human Computer Interaction	Human Computer Interaction	3	6-7

(Section G) BS Degree - General Electives

General Electives-Recommended Courses (Not Limited to the List Below) (18 credits)

S.No.	Subject Code	Course Title	Total	Semester
1	ACC111	Principles of Accounting I	3	
2	FIN201	Introduction to Business Finance	3	4
3	MGT201	Principles of Management	3	5
4	MKT201	Principles of Marketing	3	6
5	SSC103	Social Psychology and Self Development	3	6
6	ECO103	Principles of Microeconomics	3	6
7	ECO113	Principles of Macroeconomics	3	7
8	ECO	Economics	3	7
9	HUM131	International Relations	3	7
10	SSC	Foreign Language (French, German, etc.)	3	7-8
11	SSC	Philosophy	3	6-8

Course Descriptions

Core Courses

Department of Accounting & Law

ACCOUNTING COURSES

ACC111 Principles of Accounting-I

The objective of this course is to familiarize and develop in the students a thorough understanding of the accounting concepts, principles and procedures involved in the analysis and recording of business transactions and the preparation of financial statements for service and trading concerns. Accounting concepts and techniques underlying income determination and valuation of current and long-term assets, together with their related internal control measures and their presentation in the financial statements are emphasized.

ACC201 Principles of Accounting-II

This course is the continuation of Principles of Accounting-I and concentrates on the discussion of accounting principles and procedures relating to stock holders equity, long-term and current liabilities with reference to corporate organizations. Modules offered include formation of corporations, issuance of shares, treasury stock, dividends, appropriations of retained earnings, bonds payable, analysis of financial statements and preparation of statement of cash flow.

Prerequisite: ACC111

ACC381 Managerial Accounting

The aim of this course is to equip students with the managerial accounting concepts and techniques used for

sound business decision-making. Modules offered include basic cost accounting concepts, their nature and behavior, cost-volume-profit relationships, absorption and variable costing, relevant costs & differential analysis, standard costing and variance analysis, gross profit analysis and capital budgeting techniques.

Prerequisite: ACC201

LAW COURSES

LAW204 Corporate Law

This course provides an understanding of corporate law principles. The formation of companies, fiduciary duties of the management, problems incidental to Corporate Governance, Proxies, Derivative law suits, mergers and acquisitions and winding up of corporations are some of the pertinent topics of discussion in this course. A thorough analytical statutory interpretation of the amended Companies Ordinance 1984 is also to be undertaken as a part of this course.

Prerequisite: LAW205

LAW205 Business Law

The contents of this course include Contract Act, Sales of Goods Act, Negotiable Instruments, Partnerships, and Company acts. This course aims to provide basic introduction to these laws and an appreciation of the legal system in Pakistan.



Department of CS & MIS

CS & MIS COURSES

CSE141 Introduction to Programming (3,1,4)

This is a first of a series of programming courses. It introduces fundamental problem solving skills and algorithm development and covers topics like Variables, Data Types, Selection and Iteration Structures, Recursive Methods, Arrays and Structures, File I/O and optionally elementary 2D Graphics. It also covers flowchart design and pseudo-code approaches for representing solutions and debugging and testing techniques.

CSE142 Object Oriented Programming Techniques (3,1,4)

This course describes Object-Oriented Programming paradigm for managing cost and complexity of software. Principles of Abstraction, Encapsulation, Inheritance and Polymorphism are explored. Specific topics include class definition, constructors, destructors, access control, method overloading and overriding, static and dynamic binding, exception handling, object life cycle and garbage collection, and namespaces. Java, C# or C++ is used as a tool for implementation of concepts learned in this course.

Prerequisite: CSE141, or CSE145

CSE145 Introduction to Computing

This course takes a breadth-wise approach to different areas in the discipline of computer science. It overviews topics from number representation, hardware architecture, operating systems, databases, some computing models, languages and grammars, software development and engineering, networking and graphics. Java or C is used to demonstrate certain concepts.

CSE208 Digital Logic Design (3,0,3)

This course introduces basic concepts of digital computer logic including switching logic, combinational circuits, minimization methods, adders, comparators, multiplexers, synchronous and asynchronous sequential circuits, registers, counters, flip flops, encoders, decoders, buffers, RAM, switches, PLDs, instruction set design, processor implementation techniques, serial and parallel arithmetic units, pipelining, and memory hierarchy.

Prerequisite: CSE145, MTS201

CSE209 Numerical Analysis & Algorithms (3,0,3)

This course introduces concepts and analysis of numerical methods. Topics covered are solutions of nonlinear equations (interval-halving, linear interpolation, Newton, Fixed point, etc.). Interpolating polynomials, various types of differences, representation of polynomials by difference operators and their relation, symbolic derivation, interpolation with unequal intervals, inverse interpolation, 2nd and 3rd dimensional interpolations, numerical differentiation and integration.

Prerequisites: CSE246, MTS203

CSE243 Data Communication & Networking (3,1,4)

This is an introductory course in data communications and networking. It is a 4 credit course comprising of 3 hours of theory and 3 hours of lab teaching per week. It familiarizes the students with the techniques, applications and control of modern data communications networks. Topics included are network models, digital and analog transmission, multiplexing, circuit and packet switching, LAN, WLAN and WAN Networks.

CSE246 Data Structures and Algorithms (3,1,4)

The course deals with the selection and design of data structures and algorithms. It focuses on comparing algorithms for correctness and computational complexity. Students gain theoretical as well as practical experience of using a programming language (C, C++, C# or JAVA). Other topics include primitive types, arrays, stack, queues, recursion, link list, trees, binary search trees, multi-way search trees, priority queues and graphs, sorting, searching, and hash table.

Prerequisite: CSE142, or MTS201

CSE307 Introduction to Artificial Intelligence (3,0,3)

This course provides an overview of the theoretical and practical aspects of designing intelligent computer systems. Students implement the concepts learned using AI languages and tools. Topics include history of artificial intelligence, state space representation, uninformed and informed search techniques, search in games, decision trees, neural networks, evolutionary algorithms, propositional and predicate logic, inference in logic, probabilistic reasoning, robotics and various machine learning techniques.

Prerequisites: CSE246, MTS201

CSE308 Web Based Application Development (3,0,3)

This course introduces technology and design issues of web applications. It discusses principle Internet communication protocols, the purpose, strengths, and weaknesses of client- and server-side program components, and the structure of N-tier web-based applications. Students are required to develop small web-based applications to provide complete system functionality by using appropriate methodology for design, development, and testing.

Prerequisite: CSE142

CSE309 Theory of Automata (3,0,3)

This course is about the theoretical foundations of computer science. Mathematical and abstract computational models are explored with special reference to the theory of programming languages. Topics include Kleene's Closure, Regular Expressions and Languages, Deterministic and Non-Deterministic Automata, Transition Graphs, Context Free Grammars and Derivations, Turing Machines and other equivalent machines, and Chomsky Hierarchy of Languages.

Prerequisite: CSE246, MTS201

CSE310 Computer Architecture & Assembly Language (3,0,3)

This course is an introduction to computer system structure and organization. Topics include representation of information, processor architecture, input/output, CPU, ALU, memory hierarchy, arithmetic circuits, micro and macro instructions, arithmetic shifts, fixed point and floating point data, instruction codes, super scalar structures, VLIW, and other modern CPU architectures.

Prerequisite: CSE141, CSE208

CSE312 Software Engineering (3,0,3)

This course introduces the fundamental principles of large-scale software development. Students apply these principles on their individual programming effort to identify their strengths and shortcomings through the use of Personal Software Process (PSP). Students work as part of a team on a full life cycle software project that includes planning, software specification, software design, coding, inspections, and testing.

Prerequisite: CSE246

CSE341 Database Systems (3,1,4)

The course covers the foundations, design and implementation of database systems using Oracle, or SQL Server, etc. Topics include fundamentals of database architecture, relational algebra, data models, schema normalization, denormalization, data security, data integrity, query optimization, transactions management, introduction to distributed- and object-oriented databases and data warehousing.

Prerequisite: CSE246

CSE342 Operating Systems (3,1,4)

This course introduces the organization of operating systems. Topics include process management and scheduling, interaction of concurrent processes, interrupts, I/O, device handling, memory and virtual memory management and file management, distributed operating systems. UNIX, Linux, and Vista are discussed.

Prerequisite: CSE246, CSE310

CSE460 Human Computer Interaction (3,0,3)

This course is an introduction to human-computer interaction concentrating on user interface design and the methods of usability engineering. Topics include evaluation techniques, heuristic evaluation, videotaped user testing, cognitive walkthroughs, task analysis, user centered design, conceptual models and metaphors, coding techniques using color, fonts, sound, animation, screen layout, response time, feedback, error messages, interfaces for special devices, use of voice I/O, Internationalization and help systems in expressing design rationale.

Prerequisites: CSE142 or Instructor's Consent

CSE455 Network Security (3,0,3)

Students are introduced to the security issues in computing, communications, and electronic commerce. Topics included

are security requirements and vulnerabilities, legal and ethical issues, basic cryptology, private and authenticated communication, electronic commerce security, software security, viruses and other malicious code, operating system protection, trusted systems design, network security, firewalls, auditing, physical security and disaster recovery.

Prerequisite: CSE243

CSE491 Computer Science Project I (0,3,3)

This is a two semester development project under faculty supervision. Students may propose their own projects for departmental approval or may apply for a project proposed by a faculty member.

Prerequisite: CSE311, CSE312, CSE341

CSE492 Computer Science Project II (0,3,3)

Prerequisite: CSE491

MIS102 Management Information Systems (3,0,3)

This course familiarizes the students with the foundations of information systems. It introduces the entire spectrum of different types of information systems available for managerial decision-making like executive information systems, decision support systems, expert systems and data warehouses. The course not only discusses new and emergent business applications such as e-business, e-CRM, but also looks at the development processes and the managerial challenges such as security, globalization and IT strategy.

MIS103 Introduction to Computer Application (2,1,3)

The Course provides a fundamental understanding of the computer application with the course focus on the Microsoft Office Application (Microsoft Word, Microsoft Excel and Microsoft PowerPoint). This is a complete lab based course where students will be learning these applications by working on class assignments in the lab. The course topics include Basics and Fundamentals of Microsoft Word, Microsoft Excel and Microsoft PowerPoint. Students will also be covering the basic concepts in Computer Hardware and Operating Systems and the usage of the Internet and conversion of Microsoft file format into various other file formats (Adobe Acrobat).

MIS105 Introduction to Computer Administration (2,1,3)

This course is intended for non-CS major students with an interesting in System Administration. The course presents the fundamentals of modern computer systems in terms of structure and function. Hands-on experience will complement lectures. Major topics are installation of hardware and software systems, Accounts Management, Job Scheduling, Security and Threats, Performance Monitoring and Tuning, Networking (Client/Server), Peripherals Management, Memory Management, Script Writing, Running specialized services, and Maintenance.

Prerequisite: MIS103

MIS202 Technical Report Writing (3,0,3)

Topics covered in this course include a study of the particular requirements of technical report writing, coupled with a review and refinement of basic grammar and composition skills. Students will be taught about the research process and analytical reports: how to gather, analyze, and organize data for writing a formal research report on an identified and approved business-related topic, write references using required MLA or APA styles document design.

Prerequisite: SSC101

MIS211 Systems Analysis and Design (3,0,3)

In today's business environment, competitive advantage is achieved through fast, responsive and adaptive software. This course provides an in-depth understanding of how to analyze and document user requirements and design software systems to best satisfy those requirements. The emphasis is on understanding models most useful to analysts, designers and system architects.

Prerequisite: CSE142, MIS102

MIS241 Information Systems Development (3,1,4)

The course is designed to give students a broad and thorough exposure to the themes and issues involved in information system development (ISD). The course will familiarize students with various paradigms and methodologies of ISD. It develops a holistic understanding of ISD, including its technical and social aspects. Key issues that arise from the interaction of technology with its social contexts are analyzed. Theoretical and practical aspects of the subject are given equal emphasis.

Prerequisite: MIS211

MIS302 Decision Support Systems (3,0,3)

This course provides an overview of techniques and applications of intelligent decision support systems. A series of case studies are used to illustrate the application of the methodologies discussed in the course. Students are expected to implement a DSS for risky decision problems using spreadsheets, databases and other tools. Topics included are the decision making process, structuring decisions, what-if analysis, sensitivity analysis, risk attitude, enterprise information systems, neural networks, and decision trees.

Prerequisite: MTS102, CSE141, MIS102

MIS304 Business Process Modeling & Simulation (2,1,3)

The course highlights Business System Modeling using linear, non-linear dynamic programming, PERT, CPA, inventory models, forecasting models, regression analysis, queuing theory, simulation, transportation models,

assignment models, Markov chain and simulation, use of modeling in financial analysis and decision-making, funds management, treasury, cash flow variance, budgeting, text management, capital spending, annual profits planning, project controls, tax rate analysis, and design and implementation of business models.

Prerequisite: MIS211, MTS102

MIS305 Software Project & Quality Management (3,0,3)

This course addresses process considerations in software systems development. It provides knowledge and understanding of the concepts, principles, techniques, and tools that are used in the management of software projects. Topics include size and cost estimation, schedule plan, risk management, quality management and configuration management. Students work in a team to develop a project plan according to the established standards.

Prerequisite: CSE312 or MIS241

MIS343 Data Warehousing (3,1,4)

The course provides an opportunity to capture the concepts, principles, methods and evolution techniques that are common throughout Data Warehousing. Topics included are planning & requirements gathering, conceptual modeling of Data Warehouses (DWs) and logical data models (Star Schema, Snow Flake etc.), ETL, DW loading (refreshing), assuring efficient execution of OLAP queries, materialized views, data analysis techniques, metadata management, implementation and managing the evolution of DWs real-time, and active data warehouses, and warehousing complex data. Case studies are also used to analyze the implementation of successful DWs.

Prerequisite: CSE341

MIS344 Introduction to System Administration (3,1,4)

This course provides an introduction to the concepts and practices of computer systems administration. Topics included are installation and management of systems and applications and hardware components including network devices, access control for system resources, the role of administrative policies and procedures, identification of threats and countermeasures, operational controls, and audit practices required for system security and system recovery.

Prerequisite: CSE243

MIS402 Change Management and Business Process Re-engineering (3,0,3)

The aim of this course is to teach students the preconditions for success and failure of BPR, process innovation, BPR implementation, tools, role of IT, TQM, management of organizational changes that occur as a result of BPR and the use of information technologies that support BPR. The course includes the study of models such as the value

process framework for strategic alignment of business forces for organizational transformation.

Prerequisite: MIS304

MIS454 Audit, Ethics & IS Issues (3,0,3)

The course analyzes the impact of computers on society. Topics included are privacy issues, changing patterns of interaction, security, control of information systems, breakdowns, vulnerability, hazards, computer crime, fraud, defenses, access controls, audit planning and execution, disaster recovery and risk management.

Prerequisite: Instructors consent

MIS491 MIS Project (0,3,3)

This is an MIS project under faculty supervision. Students propose their own projects for departmental approval or apply for a project proposed by a faculty member.

Prerequisite: Minimum of 45 MIS/CSE credit hours.

MTS102 Introduction to Statistics (3,0,3)

The course content includes types of data, frequency distributions, measures of central tendency and dispersion, exploratory data analysis, introduction to set and probability theory, events and laws of probability, independence, conditional probability, discrete random variables, Binomial and Poisson distributions, index numbers and time series, introduction to MINITAB (the statistical software).

Prerequisite: MTS105

MTS103 Business Mathematics (3,0,3)

This is an introductory course. The most important objective of the course is to pass on knowledge of the paraphernalia that helps in solving the problems of business, economics and industry. It is a 3 credit course comprising of 3 hours of theory teaching per week. Topics included are elements of algebra, function and graphs, linear equations, depreciation, rates, proportions, payroll, taxes, percentages, simple interest and discount, averages, compound interest, commission and basic statistical measures.

Prerequisite: MTS105

MTS105 College Algebra (3,0,3)

College Algebra is necessary for studying advance courses like Business Mathematics and Calculus. The main purpose here is to teach the course with the spirit of teaching Mathematics without any particular emphasis on applications. The application part will be covered in Business Mathematics course. This is a remedial course that can be bypassed by taking the college algebra exam. A-level Math students (or equivalent) do not need to take this course.

MTS131 Calculus-I (3,0,3)

Topics included are real and complex numbers, absolute values, average rate of change of a function, the derivative of a function, the differential of a function, rectangular coordinates, functions and graphs, limits and continuity

functions, higher derivatives, differentiation of algebraic functions, applications of derivatives, fundamental theorems of differential calculus and techniques of integration, 1st and 2nd order differential equations.

Prerequisite: MTS105

MTS201 Logic & Discrete Structures (3,0,3)

This course teaches topics of logic, propositional equivalences, predicate and quantifiers, sets, relations, functions, sequences and series, the growth of functions and complexity algorithms, the integers and division, matrices, methods of proof, mathematical induction, recursive relations, generation functions the basics of counting, the pigeonhole principle, permutations and combinations, discrete probability, graphs, graph isomorphism, connectivity, Euler and Hamilton paths, introduction to trees, Boolean functions, logic gates and minimization of circuits.

Prerequisite: MTS105

MTS202 Statistical Inference (2,1,3)

The content of this course includes distribution of random variables, some special discrete and continuous probability distributions, sampling theory, estimation of statistical parameters, testing of hypothesis, inferences about mean proportion and variance for one and two populations, analysis of variance, one-way and two-way classifications, inferences about regression, categorical data analysis, non-parametric.

Prerequisite: MTS102

MTS203 Linear Algebra (3,0,3)

This course familiarizes students with binary operations, groups, rings and fields, vector spaces, linearly dependent and independent vectors, linear transformations, matrices of linear transformations, properties of matrices, matrix algebra; elementary row/column operations, Echelon form, normal form, rank and inverse of matrices; solution of equations, consistency criteria, elimination method and Gauss Jordan method, determinants and their properties; Cramer's rule and computations through MATLAB.

Prerequisite: MTS105

MTS232 Calculus-II (3,0,3)

This course covers the topics of definite integrals, improper integrals, Laplace transformations, infinite sequences, Fourier Series, curves in two dimensions, three dimensional geometry, gradient, divergence and curl, directional derivatives and theorems of Gauss & Green.

Prerequisite: MTS 131

Department of Economics & Finance

ECONOMICS COURSES

ECO103 Principles of Microeconomics

This course examines supply and demand analysis, various elasticity concepts and applications, theories of demand and production, and the derivation of cost curves. In addition to these topics, the behaviour of product and factor markets (such as pure competition, monopoly, monopolistic competition, oligopoly, and monopsony) are also discussed. This course also introduces concepts of general equilibrium, efficiency, and public goods.

ECO 104 Intermediate Microeconomics

Microeconomics is the branch of economic theory concerned with the behaviour of individual households and firms in the process of making choices. This course provides mathematical treatment of consumer choice, demand and production theories. In addition, the course also provides an understanding of the topics encompassing factor markets, game theory, Pareto efficiency and externalities.

ECO113 Principles of Macroeconomics

The objective of this course is to familiarize the students with macroeconomic concepts such as GDP, its growth, business cycles, unemployment and inflation, interest rates, productivity, aggregate demand and supply. It further analyzes public policy and the interaction of goods, money and labour markets in closed & open economies.

ECO114 Intermediate Macroeconomics

This course analyzes a variety of issues such as recession, unemployment, debt crisis, trade deficits and economic growth. The course content includes topics like IS-LM model, consumption, savings and investment, money creation, monetary and fiscal fluctuations, exchange rates, balance of payment systems and the role of public policy.

ECO211 Analysis of Pakistan Industries

This course trace the history of Pakistan's industrial development and discusses the effect of local environment on the strategic decision-making processes in business and industry. It also provides a framework for general industrial environment of the country. Individual industries are discussed in detail to provide the students an insight into the different sectors.

Prerequisites: ECO103, ECO113

ECO301 Development Economics

This course focuses on factors that spur economic growth and analyze the equation between economic growth and human welfare. It also critically examines various measures of human welfare. In addition, changes in economic structures such as sectoral output and employment relations and various

developmental policies/strategies regarding distribution of income and sectoral development are focused upon.

Prerequisites: ECO103 / ECO104, ECO113 / ECO114

ECO311 Management and Organization of Pakistan's Economy

The purpose of this course is to give students a comprehensive view of Pakistan's economy. Major topics covered in this course are analysis of each sector of the Pakistani economy, their respective contribution to GDP growth and national exchequer and their linkages with other sectors. The course also reviews governmental interventions like fiscal policy, monetary policy, trade policy and income policies. Also included in this course are topics like institutional reforms, deregulation, denationalization, globalization and other policies/factors that affect business environment in Pakistan.

Prerequisites: ECO103, ECO113

ECO440 Econometrics

This course focuses on the application of statistical methods to the testing and estimation of economic relationships. After developing the primary tool in empirical analysis the method of least squares the common problems associated with this method are discussed with an examination of methods for resolving them. The course also covers the identification, estimation, and testing of econometric models.

Prerequisite: MTS202

FINANCE COURSES

FIN201 Introduction to Business Finance

This course is aimed at introducing the fundamental tools of business finance. The main concepts examined include financial analysis, financial decision-making, time value of money, valuation of financial assets, risk and return analysis, and management of the short term assets of the firm.

Prerequisites: MTS103/ MTS105

FIN301 Financial Institutions and Markets

This course is designed to provide a look at the broad framework of the financial system, as well as insight into the nature and operations of different financial institutions and markets. These institutions and markets cover the banking industry, the non-bank financial institutions, the stock market, the bond market and the foreign exchange market.

FIN401 Financial Management

The course, building upon the background provided in the core accounting and finance courses, aims to enhance students' understanding of the theory and practice of the financial management of a firm. Topics covered include financial analysis and planning, capital budgeting process, long term financing, working capital management and mergers and acquisitions.

Prerequisite: FIN201

Department of Management

MANAGEMENT COURSES

MGT111 Information Management

Throughout their stay at the IBA students carry out research in numerous business fields, including management, economics, accounting etc. This generalized course is designed to acquaint them with various sources of information. Centered on group discussions and assignments, this course introduces students to research journals, newspapers, magazines, books, on-line research and research agencies in a very practical manner.

MGT201 Principles of Management

This course focuses on basic managerial functions of planning, organizing, staffing, leading and controlling. It is specially designed to orient students to modern management practices essential for successful management of large organizations having a diverse work force and operating in the changing global, political, economic, social and technological scenarios.

MGT211 Business Communication

The course focuses on the theory and practice of effective communication techniques in business environments. It polishes verbal and non-verbal communication skills for effective participation in business meetings and other activities. It prepares students to write formal business reports and to add value to previous work through further library research and fieldwork.

MGT221 Organizational Behavior

This course inculcates a positive approach in managing productive relationships with peers, superiors and subordinates by examining teams, individuals and networks in a business environment. Topics such as group culture, individual motivation and behavior, collective and individual performance, decision making, interpersonal communication, small group behavior and inter-group conflict are extensively covered. This course exposes students to frameworks for diagnosing and dealing with problems in organizational settings.

MGT301 Ethics in a Corporate Society

The course examines the importance of ethics in the corporate society. It highlights the need to draw an analytical distinction between ethics and morality, the good and bad, right and wrong so as to develop a criterion of judgment for socially responsive behavior. This course will examine the relationship between value judgment and attitude formation, informed by the teleology of various ethical theories. Through this course the ethical relevance of such

values like honesty, justice, fairness and equity in relation to the dynamics of corporate society will be highlighted. Distinction will be made between personality ethics and character ethics to draw the contours of corporate behavior. Special attention will be paid to the legislative nature of intentionality as the foundation of the principles of ethics. Fundamental of lessons of Islamic society and those of all other religions “Treat other the way you would like to be treated yourself” and “Enjoin the good and forbid the wrong” will be the guiding principles for our ethical, moral, social and corporate deliberations.

Prerequisites: MGT201, ACC301, MKT201

MGT311 Production and Operations Management

This course includes design, planning, and control of firms' capabilities and resources. The course work is intended to strengthen students' conceptual understanding and skills in the areas of operations, strategy and technology, forecasting, capacity and materials management, and design of productive systems.

Prerequisites: MGT201, MKT201, FIN201

MGT400 Management Theory and Practice

The course presents an overview of the basic theoretical concepts in the field of management. It also highlights the linkage between management theory and management practice. Various implications of the theoretical concepts would be discussed. The course would provide an opportunity to the class participants to evaluate various selected theoretical concepts and to see how they are applied to the real world business organizations.

MGT401 Small Business Management

This interdisciplinary course emphasizes the importance of small business in the economy. The course deals with the adoption of managerial concepts to small business, essentials of business startup, determinants of choice of business capital, location, structure, size, etc. It aims at motivating enterprising students to choose small business at entry stages of their careers, contribute to economic growth and setup their own enterprise later on.

Prerequisites: MGT201, MKT201, FIN201

MGT411 Comparative Management

The purpose of studying Comparative Management is to provide students with comprehensive knowledge of various management systems/models practiced by managers in different countries, with the aim of preparing them to manage international organizations successfully. The course includes the study of various systems/models and cross cultural issues such as the Japanese Managerial System, the western model, the (Ex-) socialist countries models, the developing countries models, and the Islamic

Countries Models as well as the Gulf Countries Models.

Prerequisite: MGT201, MKT201, MGT221

MGT421 Entrepreneurship

The Objectives of this course are:

- ✓ To appreciate the role of entrepreneurship in economic growth and thereby personal career growth of business managers.
- ✓ To acquaint the students with the virtues of entrepreneurship for the society so as to enable them to consider it as one of the early or late career options.

The course imparts knowledge about entrepreneurial & intrapreneurial process, business lifecycle, principle concepts and general guidelines for establishing a new business enterprise at a small or large level in a dynamic business environment.

Prerequisites: MGT201, FIN201, MKT201

MGT422 Entrepreneurship & Small Business Management

The objectives of this course are:

- ✓ To acquaint the students with the virtues of entrepreneurship for the society so as to enable them to consider it as one of the early or late career options.

- ✓ To enable students to adapt management concepts applied in large organizations to small businesses and start up stages and to prepare them to face the challenges of enterprise growth/start-up as intrapreneurial managers/entrepreneurs. The course aims at introducing non-business graduates to the basic concepts of entrepreneurship and entrepreneurial & intrapreneurial characteristics for self assessment. General Guidelines for setting a small business or managing its operations by adapting corporate business principles to suit the type and size of small business are also a part of this course.

Prerequisites: MGT201, FIN201, MKT201

HUMAN RESOURCE MANAGEMENT COURSES

HRM401 Human Resource Management

This course focuses on the human element of the firms and provides a framework for understanding and thinking strategically about employment relations and the management of human resources in organizations. The course covers the overview of the following areas: impact of economic, legal, social, psychological and cultural forces on employment relations, performance evaluation, compensation and benefits, promotion, job design, training, layoffs, retention and turnover and the human resource implications of business strategies.

Prerequisite: MGT201/MGT400



Department of Marketing

MARKETING COURSES

MKT201 Principles of Marketing

This is an introductory course for exposing students to the discipline of marketing by equipping the students to analyze the political, economic, social and technological environments. Students are encouraged to make observations about their marketing environment, detect signals about changes in the market place, formulate need analysis, learn about consumer and organizational markets, learn about personalities and their impact on consumer behavior, observe about how marketing departments are organized, explore the pricing mechanisms, decide about the appropriate distribution channels and structures, learn about various promotional techniques and tools, and the challenges which the explosion of new media pose in the marketers world.

MKT301 Methods of Business Research

In today's borderless and highly competitive environment, the research culture needs to be nourished. This course is designed to conceive, implement, and apply research programs in organizations. The managerial aspects of conducting research are discussed thoroughly with applications from various facets of business covering all the aspects of business entities and business functions. This course empowers the students towards the scientific research methodology so that students can observe business processes, formulate hypothesis, conduct experiments, draw conclusions and disseminate these conclusions for organizational benefits. In short, this course helps students to improve the quality of decision making in the business environment.

MKT302 Marketing Management

This course takes a simulation approach so that the principles of marketing can be applied for planning, analyzing, implementing and controlling marketing strategies. Product, price, place and promotion programs are discussed in detail, along with cases, highlighting the impact of changes in the elements of the marketing mix on profitability and productivity. Students are also involved in conducting marketing audits.

MKT400 Marketing

This is the first attempt to integrate the principles of marketing and marketing management. At the end of the course, the students will not only know the principles of marketing but also how marketing programs are conceived, executed and controlled. This course deals with the management of marketing functions in profit and non profit enterprises. The goal of this course is to develop a disciplined process for addressing marketing issues and problems in a variety of settings, to give students the tools and background necessary to think through marketing problems besides an introduction to marketing strategy and the key elements of the marketing mix. This course will enable the students to develop coherent marketing plans incorporating segmentation, targeting and positioning.

MKT401 Marketing Issues in Pakistan

The launch of this course is an outcome of an understanding that any marketing strategy that does not reflect local environment and nuances, will be ineffective. This course fills the need for understanding marketing in the local environment because the text books are of foreign origin. The course discusses problems as well as opportunities in marketing. Substantial discussions are on the topic of the emerging focus on the bottom of the pyramid markets, rural markets and critique of marketing operations of various organizations in Pakistan.



Department of Social Sciences

SOCIAL SCIENCE COURSES

SSC 101 English Grammar & Composition

This course highlights the key aspects of English Grammar & Composition. The grammatical concepts will be taught in context. This will bring in reading skill as a key element as this input is essential for quality output in the form of writing. The course also focuses on embedding in students the concept that writing is a recursive process. This part of the course takes in to account important concepts related to composition with reading as a secondary focus.

SSC102 Foundations of Human Behavior

Human behavior familiarizes students with theories, research findings and concepts necessary to describe, explain and understand human behavior. It attempts to prepare students to monitor behavior of their peers in an organization and understand why people behave the way they do and not the way they should.

SSC103 Social Psychology and Self Development

This is an elective course (Group-II) for the students of BBA-II. It gives an insight to socio-psychological skills in interpersonal relationship management. It teaches students to organize their personal lives better and reduce physical and mental stress in a corporate setting. In this course, students will learn about how people think, behave, and interact in different social environment. It will enable them to learn more about human behavior which in time will aid them in making informed managerial and human resource decisions.

HUM131 International Relations

This course attempts to explain some of the major developments in the world since the end of Cold War. It stimulates discussion and analysis of various forces and events dominating world politics. Contemporary issues such as globalization, environmental issues, human rights, conflicts and their resolutions, role of United Nations and Pakistan's foreign policy are looked into.

SSC151 Pakistan History

This is a comprehensive course on the history of Pakistan from earliest times to present day. Emphasis is laid on highlighting the historical and cultural aspects of Pakistan through various phases of history. The objective is to expose students to the record of human existence and struggle in this land and develop in them an

appreciation for their culture and world. The course content includes the freedom struggle for Pakistan and history of the country since independence.

SSC152 General History

The objectives of this course are to stimulate interest and enthusiasm for study of the past, an understanding of the nature, use of historical evidence and an understanding of the nature of cause and consequence, continuity and change. The course content includes political history, cultural history and intellectual history.

SSC153 Media Studies

The purpose of the course is to highlight the role of media in the world today. The course mainly deals with historical evolution of the discipline, its roles in society and as a tool of interaction between societies. Media studies draws on traditions from the social sciences and related discipline. This course will also explore history, development, production, influence and interpretation of media.

SSC154 Research Methods in Social Sciences

The main aim of the course is to develop an understanding of research methods so as to enable students employ research based knowledge to understand issues related to research and choose a research design. The course also aims at assisting students in data collection and analysis along with critical evaluation of research material.

SSC201 Speech Communication

It is a core course for the students of BBA-II. The course aims to enable students to understand, analyze and acquire communication skills for both business situations and personal areas. Oral presentation experiences are heavily intergraded throughout the course with a focus on public speaking design and delivery. The goal is to help students communicate through oral messages and hence groom them for effective presentations, speeches, interviews, meetings in particular and interpersonal communication in general.

SSC301 Socioeconomic Philosophy of Islam

The course has been designed to give students an insight to the Islamic interpretations of Socio economic systems the dynamics of Islamic philosophy in this regard will be stressed and compared with other socio-economic systems.

HUM211 Sociology

This course is an elective course (Group-II) for BBA-III. It introduces the basic concepts of sociology, methods of

sociological research, relationship between individuals culture and society, and the influence of social and cultural forces on personal experience and social behavior. Issues of social change, collective behavior, urbanization, and environment are addressed. Particular emphasis is laid on making analytical connections between social theory and policy.

SSC252 Political Science

Political Science is an elective course (Group-II) offered in BBA-III. It introduces students to the basic concepts of political science, political theories, comparative politics and public administration. The course will deal with issues of democracy, dictatorship, and the role of political values & culture in the context of Pakistan in particular and South Asia in general.

SSC254 Anthropology

The introductory course in anthropology is offered as an elective (Group II). It presents basic concepts, nature, scope and application of anthropology in today's world. It traces the biological and cultural evolution of mankind. Particular emphasis is laid on the concept of culture, transportation, subsistence patterns, environmental interaction, religion, language, arts and human diversity and commonality.

SSC156 History of Ideas

It is an elective course (Group I) and will be offered in BBA-II. It presents a survey of the ideas which have ruled the world, shaped human societies and determined the destinies of mankind. History of ideas is replete with instances that when ideas change, paradigms also change, resulting in the change of world views. Such changes generate creative tension experienced in the movement of thinking and begin from the "thus it is" to the "thus it ought to be." History of ideas is a procession of man's responses to the socio-cultural, moral and ethical, scientific and technological, political and economic issues and problems of his age. It is the story of his success or failure in the management of his personal and corporate affairs.

SSC111 Philosophy Logic and Ethics

It is a core course offered at BBA-IV level. The purpose of the course is to acquaint students with basic philosophical concepts, and to inculcate logical thinking and promote awareness of ethical issues in business environment. The course has been designed to promote an understanding of philosophical issues among the youth. Works of major philosophers are introduced. Various dimensions of social, political and economics philosophies are the main focus.

SCI251 Creative Writing

Creative Writing will be offered at BBA-IV level. The course aims at tingling and stretching the imagination and creativity of students by making them experiment with different kinds of writing. The course will enable students to improve their talents and skills of writing. It will also give them the opportunity to explore different channels of expressing themselves.

SSC150 Remedial English

It is a non-credit course, offered during the summer sessions. The IBA entrants will be administered a proficiency test, failing which, the students will sit in this course. The course aims at improving the fundamental English language skills, with stress on the effective use of grammar for clear communication. It follows a skill-based syllabus, to prepare students for the advance-level course of English Grammar and Composition.

French/Chinese/Arabic introductory language courses.

Prerequisites: Students need to pass English Grammar and Composition course before they can opt for Creative Writing and Speech Communication.

Foundation of Human Behavior is a prerequisite for Social psychology and Self Development.



Course Descriptions

Electives Courses

Accounting

ACC551 Activity Based Costing and Management

This specialized course equips students with the tools to measure organizational productivity. The focus is on management of costs driven organizational activities. It includes contemporary cost concepts, such as value chain analysis, cost management, theory of constraints, life cycle cost management and strategic accounting responsibilities. Developing students understanding of productivity and efficiency enhancement is the special feature of this course.

Prerequisite: ACC401

ACC556 Advanced Financial Accounting

This course covers accounting and reporting principles practiced in a variety of business entities, revenue recognition criteria, mergers and acquisitions, accounting in multinational firms, segment reporting, accounting for leasing, consolidated financial statements, deferred taxes and accounting for public and non-for-profit organizations.

Prerequisites: ACC501/ACC201

ACC557 Auditing Theory and Practice

The objective of the course is to develop a framework for determining the nature and requirement of auditing process applicable in different environments. The course focuses on techniques for investigation, verification, interpretation and appraisal of accounting records and financial statements. Concepts of accountability and ethical issues pertaining to the auditing profession with reference to the International Standards of Auditing, wherever applicable are also discussed.

Prerequisites: ACC501 / ACC201

ACC559 IAS and Financial Reporting in Pakistan

Increasing trend of acquisitions, mergers, leverage buyouts and restructuring currently witnessed in highly dynamic and global economic environment, the problems associated with the measurement of value-creating potential and reporting financial results have been significantly brought out. These problems have arisen due mainly to corporate bodies in different regions of the world following different sets of accounting standards.

In view of above and vulnerability of standards to creative interpretations exposed by recent accounting scandals, the need to harmonize and develop globally acceptable reporting standards has long been recognized and efforts made. The course covers understanding of need for, scope of and authority attaching to International Financial

Reporting Standards (IFRSs) and International Accounting Standards (IASs) their adoption and practice in Pakistan.

Prerequisite: ACC501

ACC561 Analysis of Financial Statements

During the present era of business acquisitions, mergers, leveraged buyouts and restructuring and in view of constantly evolving financial reporting refinements and large scale manipulation of financial reporting to control perceptions of investors and lenders, the need for vigorous and meaningful analysis of financial statements cannot be over-emphasized. This course aims at developing a deeper understanding of accounting principles and standards underlying the data being analyzed and the analytical tools and techniques used for meaningful decision-making. The topics covered include discussion of adversarial nature of financial reporting, balance sheet limitations, revenue exaggeration and expense manipulation, nature and types of reserves, deferred taxes, performance measures and ratios, financial flexibility and leveraged buyouts and growth rates and valuation via restructuring potential. The course is given largely through case studies and real life business problems thereby stimulating effective participation of students in the learning process.

Prerequisite: ACC501/ACC201

ACC 563 Accounting Information System

The course provides students with an understanding of the concept of information systems and how they help improve managerial decision-making. It introduces systems design and analysis, systems flowcharts, evaluation of internal controls and systems audit.

Prerequisites: ACC501

ACC564 Cost Management System, Design and Control

This course builds upon the concepts of Cost and Management Accounting learnt earlier. Cost Management Systems design and development, and its interface with financial Accounting and overall Operations Management system is covered with focus on areas of cost reduction and control including JIT effects, lifecycle cost management, cost of quality, productivity measurement and control etc.

Prerequisite: ACC401

Economics

ECO Environmental and Resource Economics

This course covers study of public resource policy, natural resource and environmental economics, and community economics and finance. Training is also available in agricultural economics, including agribusiness, small

business management, food and marine marketing, and world food supplies. Emphasis is also placed on courses related to freshwater and marine economics, land economics, and rural economic development. It includes survey of significant resource problems from an economic perspective and the application of economic analysis.

ECO Financial Economics

The objective of this course is to undertake a rigorous study of the theoretical foundations of modern financial economics. The course will cover the central themes of modern finance including individual investment decisions under uncertainty, stochastic dominance, mean variance theory, capital market equilibrium and asset valuation, arbitrage pricing theory, option pricing, and incomplete markets, and the potential application of these themes. Upon completion of this course, students should acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuation of securities.

ECO Game Theory

This course examines the choices that we make which affect others and the choices others make that affect us. Such situations are known as "games" and game-playing, while sounding whimsical, is serious business. Managers frequently play "games" both within the firm and outside it with competitors, customers, regulators, and even capital markets! The goal of this course is to enhance a student's ability to think strategically in complex, interactive environments. Knowledge of game theory will give students an advantage in such strategic settings. The course is structured around three "themes for acquiring advantage in games": commitment / strategic moves, exploiting hidden information, and limited rationality.

ECO Game Theory and Competitive Strategy

In this course, Game theory, along with microeconomics, is used to analyze the strategies businesses use in a competitive world. The first part of the course is an intuitive introduction to Game theory. The latter part discusses issues such as dealing with competition, the optimal size of the firm, efficient levels of vertical/horizontal integration, the advantages and effects of innovation and branding. The course complements the study of both Finance and Marketing majors.

Prerequisite: ECO103/ECO201

ECO Health Economics

This course is an introduction for advanced economics students to contemporary theoretical analysis of, empirical evidence on and policy debate about: what is health and who produces health, how it is produced, variations in its production, and consequences of its production or lack of production.

ECO Industrial Economics

Industrial Economics deals with those pressing problems faced by industrial units of various types in different parts of the world varying in scope and dimensions. Industrial Economics has gained immense significance due to the fact that each industrial organization in particular and industry in general has to cope with individual or collective problems from inception to zenith.

ECO Islamic Economics

Islamic Economics aim to correlate the teachings of Quran and Sunnah with contemporary economic theories and practices with a view to augment the knowledge imparted and make it all-encompassing. The Islamic system of economics is actively practiced within Islamic states in their financial institutions and industries since hundreds of years. The current economic system relies on experimental revisions and updating by experts who propagate their theories in different parts of the world in diverse time dimensions. It, therefore, lacks structure, connectivity and coherence in thought process, whereas Islamic Economic System is universal emanating from divine roots and enfolding all kinds of economic activities that are to be confronted by mankind, wherever they may be.

ECO Regulatory Economics

The objective of this course is to develop expertise in regulatory economics, defined as price and entry regulation. Price and entry regulation occurs when the state restricts who can provide services and approves the terms (price, quality, product variety etc.) of service. The course will consider three broad topics: (i) Why regulate? (ii) How should firms/industries be regulated? (iii) How are firms actually regulated?

ECO Transport Economics

This course covers the concepts and principles of transport economic theory, transport demand and forecasting, transport costs and cost analysis, pricing of transport services, Infrastructure pricing and investment, market structure, regulation and deregulation and project evaluation.

Operations Management

OPS501 Quantitative Methods for Business Decisions

Managers use a variety of quantitative tools for solving problems in different functional areas. Quantitative tools covered in this course include multivariate methods, linear programming, data mining, project scheduling, queuing and simulation.

OPS502 Operations Strategy

In this course, students will develop the ability to identify and frame complex strategic issues in operations, design

operating strategies that address those issues, and take effective action to achieve the full potential of the decision. The course exposes students to a range of concepts, tools, and techniques for addressing issues such as the design and evolution of multi-site operating networks, the selection and development of process technologies, and the creation of operating systems that effectively connect operations with customers, distribution channels, and suppliers.

OPS503 Information Technology as an Integrating Force in Manufacturing

Focus on the key role that information technology plays in enabling organizational change and integration, especially in manufacturing. Topics include: trends in core technologies, including computer hardware, software, communications, and networks; the development and evolution of the internet and web; business models for electronic commerce; reinventing business processes and supply chain management; evaluating and managing the use of advanced information technologies in manufacturing; and new technology-enabled forms of working and organizing.

OPS504 Six Sigma Simulation

Six Sigma as a data-driven business strategy has really turned into the hot-button issue of the day. The strategy involves rigorous training in the use of specialized measurement and statistical tools. These help to improve customer satisfaction by reducing defects in products, processes, and services. In turn, costs that are passed onto the customer are cut, reducing cycle time and its variation, which translates into on-time delivery. The course is focused on Six Sigma as a business strategy, as well as a rigorous problem prevention/solving methodology. A key aspect of the Six Sigma strategy is DMAIC, a scientific/disciplined approach to problem prevention/solving -Define, Measure, Analyze, Improve, and Control. Each of these steps requires a fundamental understanding of the business process being investigated.

Law

LAW551 Globalization and International Law

This advanced elective course discusses the phenomenon of globalization and international law with reference to MNCs, foreign direct investment and other contemporary issues involved. The course objectives include initiating a debate and dialogue amongst the students to relate to macroeconomic, legal and political issues in context of globalization.

Prerequisite: ECO103, ECO113 & MGT201

LAW552 Banking Law

The subject of this course is government regulation of banks, with a particular focus on government regulation of banking activities and the financial services activities of banks. The legal structure of the financial services industry, and the formation and expansion of banks and financial holding companies are focused. This course will cover

basic banking law the structure of banking regulation, bank charters, bank holding companies, and lending and deposit issues.

Prerequisite: LAW205

Computer Science & Engineering

CSE311 Object Oriented Design and Implementation (3,0,3)

This course is an advancement of the techniques learned in Object Oriented programming. Topics include Conceptual and Object Modeling, Functional Requirements for a system and produces implementation specifications. Unified Modeling Language is used for representing various phases of analysis and design.

Prerequisites: CSE142, CSE246

CSE344 Compiler Design (3,1,4)

This course examines the design consideration, constraints and implementation techniques for developing compilers and interpreters. Topics include Compiler Backend Operations like Scanning, Parsing – top-down and bottom-up parsing, BNF/EBNF and Syntax Trees, Semantic Analysis and Annotated Grammars, and Compiler Frontend Operations like Runtime Environments, Code Generation and Introduction to Code Optimization.

Prerequisite: CSE310, CSE309

CSE406 Principles of Programming Languages

This course develops understanding of programming language design and implementation issues with respect to computational models their domains and ease of use. It covers topics like data types, declarations, static and dynamic binding, evaluation order, scopes and lifetimes, evaluation order and interpretation and compilation as well as just in time compilation. A comparison of fundamental characteristics of structured, scripting, logical and functional languages is also done.

Prerequisite: CSE142

CSE443 Modeling & Simulation (3,1,4)

This course looks at simulation, which is one of the most widely adopted techniques in problem solving. Topics included are an overview of system modeling and simulation, manual example on simulation of discrete event systems, input analysis, random numbers and random variates, output analysis, variance reduction and optimization. The course also discusses case studies on application of simulation.

Prerequisite: CSE141, MTS102

CSE448 Microprocessor Interfacing (3,1,4)

This course covers the fundamentals of Intel x86 assembly language and the basic architecture of the Intel microprocessor. Topics include Assembly language, microcomputer system hardware, input / output devices, and bus discipline. In addition, 8051 Microcontroller

Programming and Interfacing will also be covered. This course consists mostly of hardware labs in which student develop projects on electronics leading to a semester final project.

Prerequisite: CSE310 CSE460

CSE455 Network Security (3,0,3)

Students are introduced to the security issues in computing, communications, and electronic commerce. Topics included are security requirements and vulnerabilities, legal and ethical issues, basic cryptology, private and authenticated communication, electronic commerce security, software security, viruses and other malicious code, operating system protection, trusted systems design, network security, firewalls, auditing, physical security and disaster recovery.

Prerequisite: CSE243

CSE553 Image Analysis & Computer Vision (3,0,3)

This course is an introduction to the field of Computer Vision and focuses on the underlying algorithmic, geometric and optic issues. The course starts with a brief overview of basic image processing topics (convolution, smoothing, edge detection). It then proceeds on various image analysis topics such as binary images, moments-based shape analysis, Hough transform, image formation, depth and shape recovery, photometry, motion, classification, and special topics.

Prerequisite: CSE205

CSE554 Pattern Recognition (3,0,3)

This course provides an introduction to classical pattern recognition. The course includes sections on neural networks and provides links to the classical statistical pattern recognition techniques. Topics discussed are Bayesian decision theory, parametric estimation and supervised learning, linear discriminate functions, nonparametric methods, feature extraction for representation and classification, neural networks for pattern recognition. Some of the applications of this topic are automated speech recognition, fingerprint identification and optical character recognition.

Prerequisite: MTS102

CSE555 Robotics (3,0,3)

The course examines computer control aspects of robots with special emphasis on some applicable artificial intelligence techniques. Topics included are manipulator kinematics and dynamics, sensors and perception, object location, mobile robot investigation, task planning, control architectures, multiple robot systems and robot programming.

Prerequisite: MTS203

CSE557 Advanced Topics in Networking (3,0,3)

This course is intended to provide senior level students a thorough understanding of modern networking concepts and technologies. It discusses in detail various networking

technologies in particular for Metropolitan Area and Wide Area Networking, introducing them to tradeoffs between various protocols, and services. Topics covered include: VSATs, ATM, Sonet, Optical Networks, Voice over IP, MPLS, Wireless LAN, 3G Mobile Services, Bluetooth, Mobile/Cellular Networks.

Prerequisite: CSE243

CSE558 Mobile Computing (3,0,3)

The objective of this course are the overview of history, evolution, compatibility of wireless standards, special problems of wireless and mobile computing, wireless LAN and satellite- based networks, wireless local loops, mobile internet protocol, mobile aware adaptation, extending the client-server model to accommodate mobility and mobile data access. Furthermore, software packages to support mobile and wireless computing, the role of middleware and support tools, performance issues and emerging technologies are also discussed.

Prerequisite: CSE243

Marketing

MKT551 Advertising

Advertising is the use of communications for informing, reminding, persuading and entertaining. It is the means through which organizations connect with their target audiences. The emergence of satellites and internet has posed real challenges to the traditional advertising methodologies. This course equips the students for the strategic use information and technology for targeting, tailoring and tying customers. The characteristics of print, audio, audio visual and outdoor states and mobile media is studied. Students are required to conceive, plan and execute complete advertising campaigns. Since the majority of Pakistan's population requires behavioural changes regarding health, social indicators and societal interactions; Development Communications, that is communications designed for effecting behavioural changes, is also a part of this course.

MKT552 Consumer Behaviour

Consumer Behaviour is manifested by what, where, when and how consumers make purchases. These decisions are influenced by the type of products, social classes, cultures, perception, attitudes, information processing, reference groups, family influences and the diffusion of innovation. All these processes are studied for both the individual and the organizational consumers. Pakistan being a predominantly agricultural rural based economy the decision making process of the rural consumer is a specific focus.

MKT553 Export Marketing

The course is designed to familiarize students with the procedures, policies and management problems faced by Pakistani exporters. It includes a study of the Pakistani exporters, types of export channels, sources of export market

information, locating sales channels through international publications, export yard sticks, advertising and sales promotion and packaging for exports, export terms and documents, banking services and transportation for exports.
Prerequisite: MKT200

MKT562 Personal Selling

Personal selling is an important element of the promotional mix especially in a country where the literacy rate is low. The ability to convert product attributes into specific customer benefits, handling of sales objections, designing and delivering sales presentations and customizing the dialogue in various selling situations are an integral part of this course. Students are empowered to make an optimum use of empathy and ego to meet their sales objectives.

MKT564 Sales Management

Sales is the culmination of the marketing effort. The activities entailed in the sales function involve setting sales objectives, formulating sales plans and executing sales programs through the sales force. This requires recruitment, selection, training, managing and evaluating the sales force performance. Allocating resources optimally by carefully territory design is a key to success. This course looks at all these aspects with real life examples from the Pakistani market. Sales management efforts in different industries of Pakistan are studied in-depth.

MKT561 Brand Management

Lack of branding is perceived as a big weakness in marketing in Pakistan; both in domestic market and the international markets. This course is designed to inculcate the practice of building powerful brands and brand management. The course studies all the component parts of a brand that is its name, logo, design and advertising. Brand management practices are also considered so that purchasing behaviour is influenced through creating an identity in the minds of consumers.

Seminar in Social Marketing

This seminar has the following objectives:

- ✓ To create awareness, impart knowledge and highlight significance of social marketing for business executives.
- ✓ To prepare executives for non-profit, non-commercial, civil society organizations in Pakistan.
- ✓ To promote students centric, interactive and broad-based learning.
- ✓ To explore strategies for bringing about behavioural and attitudinal changes in society.

Finance

FIN522 E-Banking

Developments in information technology and telecommunications have set in motion an electronic revolution all over the world in the banking sector. This in turn has resulted in new delivery channels for banking products and services such as the automated teller machines (ATMs), telebanking and e-banking. The purpose of the course is to examine the evolution of electronic banking in the global economy, with particular reference to Pakistan, and to analyze the various electronic delivery channels utilized by banks and to assess the consumer's reactions to these delivery channels.

FIN551 International Finance

This course concentrates on the role of external finance and foreign exchange in a macroeconomic context. The topics covered include a study of the major institutions of international finance, the balance of payments analysis, theories of foreign exchange rate determination, international risk exposures and risk management.

Prerequisites: ECO113/ECO 202 and FIN201

FIN552 International Financial Management

The course equips the students for taking decisions in the highly technical international financial environment. Whereas international banking is tilted towards the procedures involved, this course strives to educate students to know, decide, direct and manage international money and capital transfers.

Prerequisite: FIN 201, FIN401

FIN553 Security Analysis

This course covers in detail various types of investment securities, application of tests of income risk and marketability in the selection of securities, diversification and management of funds, methods of security analysis and the use of technical aids in the appraisal of investment values. This course gives students practical investment experience and introduces them to various styles of investing and security analysis. It exposes them to the operations of money management-related processes and investment culture of the Karachi Stock Exchange.

Prerequisite: FIN201

FIN554 Investment Analysis and Portfolio Management

This course introduces the modern theory and practice of investment analysis and portfolio management. The course surveys various quantitative applications and asset valuation models and their use in constructing profitable investment portfolios. Topics include designing portfolios, risk diversification, market structure and market efficiency, security valuation models, setting investment goals and policies, equity and fixed income portfolio strategies and portfolio performance.

Prerequisite: FIN201

FIN555 Corporate Finance

This course is aimed at building an analytical understanding of corporate financial decision-making. It examines the fundamental question in finance i.e., the ability of companies to make profitable financial decisions using financial theories put forward by different scholars. The course also deals with controversies regarding what businesses do in order to maximize firm value.

Prerequisite: FIN201

FIN557 International Banking

The objective of this course is to provide students with a detailed knowledge of operations in international banking arena. Some of the aspects covered in the course include: the mechanisms of foreign exchange transactions, the Euro markets and internal financial centers, international money markets, international capital markets, and the regulatory framework for controlling such markets.

Prerequisite: FIN201

FIN558 Regulation of Financial Markets

The aim of the course is to analyze and evaluate facets of regulation of the financial markets, that is the concepts, rationale, tools and framework of financial regulations at the national and global level. The scope of the course includes the statutory (SBP, SECP) as well as the self-regulatory organizations (stock exchanges). It also includes supra national forums like the Basle Committee of Banking Supervision, IOSCO, etc. as well as private sector regulatory initiatives, like credit ratings.

Prerequisite: FIN201

FIN572 Entrepreneurial and Small Business Finance

This course addresses how to provide entrepreneurs and small business owners with financial skills and help them establish networks of business service providers. This course will educate students about financial programs, which support small business development and how small businesses can be made more attractive to private investors and lenders. Additional topics include micro-lending and other traditional forms of lending with live examples from the Pakistan economy.

FIN576 Derivatives and Risk Management Techniques

The course surveys the principles of probability theory and mathematical finance for solving a diverse set of risk management problems related to the valuation and measurement of operational and financial risk exposures of the firm. The course is designed for all students interested in risk management and its application in finance, accounting, strategic management and economics.

FIN577 Seminar in Finance

This is Master level course in applied finance. This course is required for all students in the finance specialization and may

also be taken by interested students from other specialization. Our objectives are: to provide students with in-depth skills in basic key areas of modern applied finance that will allow them to become providers of essential financial information, and to familiarize students with a broader range of more advanced tools, procedures and concepts commonly employed in modern finance at a level of understanding that will allow them to become informed and critical consumers of advanced technical information. Topics covered include: working with financial data, empirical applications of financial volatility, empirical applications of factor models in finance, and financial forecasting.

Prerequisites: FIN201, MTS202

FIN579 Liability Risk Management

The course aims to develop an in depth knowledge of property and liability insurance and a framework for designing and analyzing insurance contracts. The course examines property and liability loss exposures and their management, with primary emphasis on insurance. Topics include a study of the liability insurance industry, including the economic and financial issues inherent in liability insurance markets, determinants of insurance costs and prices, corporate governance and organizational form, financial pricing models, solvency measurement, solvency regulation and market discipline, reinsurance and catastrophic risk, underwriting and risk selection, rate making techniques, and underwriting cycles.

FIN580 Life and Health Insurance

This course introduces the nature of life and health insurance risks and explores some of the products sold by life insurers to deal with them. Selected legal, financial planning, and company operations are covered, including underwriting, marketing, and product design. A study of the financial implications of death, disability and retirement, as well as the corresponding forms of individual life insurance, health insurance and annuities. Elementary life and health insurance programming, taxation, legal aspects, business uses of individual life and health insurance, regulation, and insurer operations and functions are covered.

FIN581 Bank Marketing

Topics include aspects of development and innovation in the area of bank services. In addition, the course aims at providing participants with the scientific concepts of negotiating with bank clients and the way of presenting the distinguished service to them. It also enriches their skills of bank marketing and marketing review methods for achieving objectives of the bank.

FIN583 Risk Management in Banking

The purpose of this course is to offer a step-by-step approach to the development of a proper risk management for a bank. The course will focus on identification and measurement of a banks exposure to financial risk, use of various financial instruments in managing the banks exposure to risks, and implementation of a risk management

program. Throughout the course, real-life cases and computer simulations using real-time data will be used to allow students to acquire hands-on experience in risk analysis and the setting-up of a risk management program.

FIN590 Investment Banking and Financial Services

The management of investment banking firms themselves is the subject of this course. All major business lines are discussed: new issues of debt and equity; corporate finance advisory, including mergers and acquisitions, sales and trading of securities, derivatives and commodities; equity research; and investment management. Emphasis is placed on how investment banks build relationships and solve problems for investors. The purpose of the course is to provide the student with an understanding of the services provided by investment banks and a knowledge of the way these institutions operate in the financial markets. The course examines how investment banks are evolving, and how the various departments work together to solve client problems

FIN Fixed Income Securities and Interest Rate Derivatives

This course provides an introduction to fixed-income securities and interest rate derivatives. Includes: term structure dynamics (including bond price lattices, spot and forward rate models), analytical and numerical techniques, duration measures, interest rate derivative securities (including options, futures and swaps), the interaction between interest rate risk and credit risk, mortgage-backed securities and value-at risk, the concepts of general collateral, an accessible treatment of the arbitrage-free models of the term structure, including the concept of state prices and no-arbitrage.

FIN Strategic Management of Credit Risk and Loan Policy

The focus of this course is to critically examine credit risk measurement with regard to finance theory and practical applications. Topics include lending theory, credit risk measurement and modeling, analysis of lending products, and managing the loan portfolio and problem loans. The approach will be toward investment decisions of financial institutions and gaining an understanding and appreciation of sound and practical banking practices in the areas of lending and delivery of services in modern financial institutions.

Mathematics & Statistics

MTS451 Operations Research

This course aims to develop modeling and analysis skills for solving deterministic optimization problems. It provides an introduction to linear programming, and will also cover integer and non-linear programming if time permits. The course will include a study of the Simplex method as well

as some other algorithms. Topics to be covered include sensitivity analysis, duality, forecasting, game theory, integer programming, Markov processes, networks, queuing theory, simulation, transportation, and transshipment. The course will also introduce students to the use of computer software to solve linear and nonlinear problems.

MTS502 Mathematical Modeling and Its Application in Finance

Quantitative methods have become fundamental tools in the analysis and planning of financial operations. There are many reasons for this development: the emergence of a whole range of new complex financial instruments, innovations in securitization, the volatility of fixed-income markets since interest rate deregulation, the increased globalization of the financial markets, the proliferation of information technology, and so on. In this course models for hedging, asset allocation and multi-period portfolio planning are developed, implemented, and tested. In addition, pricing models for options, bonds, mortgage-backed securities, and swaps are discussed. The models typically require the tools of statistics, optimization, and/or simulation, and they are implemented in spreadsheets or a high-level modeling environment, MATLAB. This course is quantitative and will require extensive computer use. The course is intended for students who have a strong interest in finance. Prospective students of this course should be comfortable with quantitative methods, such as basic statistics and mathematical programming and simulation methodologies, Decision Models and Uncertainty.

Human Resource Management

HRM414 Employee Staffing and Training

Students will explore theory and best practices of staffing and training processes that lead to positive individual and organizational outcomes and will learn current trends in selection and training, measurement of individual differences for decision making in hiring, promoting, training, and dismissal, evaluation of HRM processes and systems; formal and informal training program design, evaluation of training effectiveness, interviewing of applicants and professional interaction with an audience.

Prerequisites: MGT201/MGT400

HRM425 Personnel Research Techniques and Human Resources Information Systems

This subject involves the study of quantitative and qualitative analysis techniques and research as they pertain to the planning, collection and interpretation of data relating to the management of human resources. Both manual and computer information systems methodologies are used. The course teaches the techniques involved in researching, analyzing, and interpreting data relating to human resource activities.

Prerequisites: MGT201/MGT400, MTS 205/MTS501

HRM430 Recruitment and Selection Techniques

A basic study is undertaken of the principles, issues, trends and legislative requirements affecting recruitment and selection. Students will acquire the knowledge and skills needed to successfully identify human resource requirements and attract and retain an effective workforce for an organization. The changing legal environment and the impact of laws on recruitment and selection are an important component of this course.

Prerequisites: MGT201/MGT400

HRM435 Training Techniques and Practices

Students will gain experience in needs assessment, program design and implementation and evaluation techniques. They will also learn the use of appropriate training methodology and techniques by presenting in-class facilitation sessions. Identifying principles which facilitate adult learning and apply these practically, developing observable and measurable learning objectives to be used in designing program content and evaluation methods are a part of this course. In addition to this, it involves applying basic needs assessment, development, implementation and evaluation techniques to produce effective instructional designs.

Prerequisites: MGT201/MGT400

HRM440 Design & Administration of Compensation Plans

The student will explore the nature of compensation plans, their relationship to performance in the workplace as well as the legislative framework affecting them. The course outlines strategic compensation issues, the pay model, consistency, the impact of internal pay structures on efficiency, equity and compliance in the pay system, the importance of job analysis and its relationship to internal consistency, the difference between job-based and knowledge-based pay structures, the design of a basic pay structure, performance evaluation and merit pay systems, alternatives to traditional reward systems, benefits determination process and the regulatory aspects of compensation management.

Prerequisites: MGT201/MGT400

HRM445 Occupational Health and Safety

The course discusses key technical, political, management and personal issues relating to health and safety in the workplace, the role and importance of effective health and safety management to business, government, organized labor, individual employees and society, key legal rights and responsibilities of employees and employers with respect to health and safety issues in the workplace. In addition, positive health and safety initiatives made by proactive employers are also examined.

Prerequisites: MGT201/MGT400

HRM450 The Legal Environment

The student will be exposed to such diverse areas as employment standards, workers compensation, pay equity,

human rights and unionization. The corresponding rights and responsibilities of employers and employees will be examined. The contractual nature of the modern employment relationship, the elements of the contract, and remedies for the breach of the contract will be studied. Differences between the independent contractor, the contract employee, the individual employee and the unionized employee will be discussed. The employer's rights and how to respond to employee action are also discussed.

Prerequisite: MGT201/MGT400

HRM550 Foundations of Human Resource Development

The course will investigate the theory, practice, and issues associated with human resource development in organizations. Human resource development is the expansion of employees work-related abilities for the attainment of organizational and personal goals. The course discusses the major roles of HRD professional, learning specialist, administrator, consultant and researcher/evaluator.

Prerequisite: MGT201/MGT400

HRM551 Industrial Relations Management

The course is centered on management of labor relations. Socio-political factors affecting labor relations, principles and strategies of negotiation, trade unionism, its benefits and drawbacks, as well as means of evaluating union demands are some of the topics discussed in this course.

Prerequisites: MGT201/MGT400

HRM553 Human Resource Development

The course emphasizes the need for training and development for all levels of employees ranging from frontline workers to senior managers in order to bring about the development of the entire organization. Training exercises, management development programs and continuous professional development activities are discussed, along with their costs and benefits, evaluative criteria, and impact on individual and organizational growth.

Prerequisite: MGT201/MGT400

HRM554 Compensation and Benefit Management

New trends in designing compensation packages, their costs and benefits for the organization, and their utility as motivational tools are some topics of discussion in this course. Case studies and class discussions are used to give students a flavour of the real life remuneration strategies.

Prerequisite: MGT201/MGT400

HRM555 Succession Planning

The growing uncertainty in the business world places extra demands on management to chalk out succession plans. This requires senior managers to have a vision and play the role of leaders and mentors in the development of managers who have the potential to lead. Discussion on

well-known leaders, their characteristics and strategies and struggles to reach the top, as well as their abilities to influence and mobilize others are dealt with.

Prerequisite: MGT201/MGT400

HRM556 Conflict Management

The course presents negotiation theories, strategies and styles. Conflict management skills such as mediation, investigation and arbitration are an important part of the course; as are issues like racism, gender discrimination, whistle blowing and ethics.

Prerequisites: MGT201/MGT400

HRM557 Team Management

The course is about forming, leading and managing teams and group work. It encourages discussion on how to deal with difficult group members, encourage creativity, improve group decision-making and liaise with other functions within and outside the organization. Students are assigned to teams at the very beginning, where they analyze cases of outstanding and poor team dynamics, complete group assignments and evaluate their own team dynamics and outcomes.

Prerequisites: MGT201/MGT400

HRM559 Operational HRM

The course addresses the key tasks of Operational Human Resource Management. Recruitment and selection, training and development, and performance appraisal and feedback are the main topics of discussion in this course. Other areas covered include assessment tests, theories of motivation and evaluative criteria.

Prerequisite: MGT201/MGT400

HRM560 Managerial Decision-Making

The course begins with the assumption that managers are constantly making decisions that involve risk. This course investigates how managers confront risk, deal with difficult decisions and prepare for contingencies. Various models of decision-making are studied as part of the course.

Prerequisite: MGT201/MGT400

Management Information Systems

MIS402 Change Management and BPR (3,0,3)

The aim of this course is to teach students the preconditions for success and failure of BPR, process innovation, BPR implementation, tools, role of IT, TQM, management of organizational changes that occur as a result of BPR and the use of information technologies that support BPR. The course includes the study of models such as the value process framework for strategic alignment of business forces for organizational transformation.

Prerequisite: Instructor's consent

MIS454 Audit, Ethics & IS Issues (3,0,3)

The course analyzes the impact of computers on society. Topics included are privacy issues, changing patterns of interaction, security, control of information systems, breakdowns, vulnerability, hazards, computer crime, fraud, defenses, access controls, audit planning and execution, disaster recovery and risk management.

Prerequisite: Instructor's consent

MIS458 Enterprise Resource Planning (2,1,3)

This course focuses on implementing off-the-shelf packages like SAP, Oracle Applications or JD Edwards. Students will study the options and tuning features available in a given package and discuss the business requirements for one of the modules to be implemented. They will have to tune the features available in the given package to meet the business requirements. This will be a hands-on implementation course.

Prerequisite: Instructor's consent

MIS459 Customer Relationship Management (3,0,3)

The course incorporates group interaction, real life case study scenarios and dynamic facilitation of course materials to understand customer relationship management. Topics included are: successful CRM strategy, organizational issues of developing and implementing CRM strategy, phases of CRM framework, CRM project management, CRMs RoI and CRM information system.

Prerequisite: Instructor's consent

MIS491 MIS Project (0,3,3)

This is an MIS project under faculty supervision. Students propose their own projects for departmental approval or apply for a project proposed by a faculty member.

MIS502 Operations and Technology Management

This course offers students a foundation for dealing with technology and operating issues as a general manager. The course is based on the premise that operations can be a significant source of competitive advantage for a firm, and prepares students to identify and implement operating improvements that directly affect firm performance. The course objective is to help students understand the concepts, frameworks, tools, and techniques that enable and operating manager to diagnose an existing situation, identify its challenges and opportunities, and craft a plan of action that will result in a dynamic, distinctive advantage in the market place. Topics encompass: process analysis, cross-functional and cross-firm integration, product development, and technology and operations strategy.

MIS503 Enterprise Integration

The objective of this course is to teach students the different technologies that are currently being used to meet the integration needs of organizations. Topics covered in the

course include fundamental concepts of Enterprise Integration; an overview of critical technologies; integration methodology, B2B integration, and web services for enabling integration. There is also a design/programming assignment. The course begins with Enabling and middleware technologies for Enterprise Integration. It includes Application-centric view of Enterprise Integration as well as Data-centric view of Enterprise Integration. Another important area is Workflow Management Systems.

MIS513 Information Industry Structure and Competitive Strategy

The nearly instantaneous transmission and processing of information is changing the structure of entire industries, and is altering the profitable opportunities available to many firms. The ability to target profitable market segments and to identify individual customers is reducing the value of scale-based operations and the strategic advantage of large firms with existing market share. The ability to monitor the performance of units abroad, without regard to distance or time zones, is increasing the value of cooperative partnerships. This is leading to greater reliance upon outsourcing, benefiting many services industries and once again reducing the advantage of many large firms. At the same time, the impact of information technology on the transparency and efficiency of securities markets is destroying the profits of entire segments of financial services. All aspects of the firm-production, service, sales, marketing, strategy-will be affected. Clearly, some firms will win and other will lose; nearly all will have to change. And yet, fundamental laws of economics have not been repealed. How can previous economic theory, and previous experience with rapid technological change, provide insights for the development of strategy in an increasingly digital age? This course draws upon the most recent experience in the impact of information technology upon diverse industries, ranging from securities trading to consumer packaged goods retailing. It integrates that experience with relevant theory to develop a theory of competitive strategy for electronic commerce, and for information-based strategies more generally. It is not tools and techniques course or a quantitative analysis course; likewise it is not a technology or an implementation course. It provides a focused and modern complement to strategic planning.

MIS520, 521 Multidisciplinary Projects I,II

The multidisciplinary projects I & II are 3 credit-hours projects, both of which are required to be taken by MBA MIS students in their final two semesters. These projects are recommended to be projects done with the industry involving CCS and at least one other academic department at IBA. The emphasis should be innovative and/or effective use of MIS/IT in traditional business domain. It should involve solving practical business related problems. The projects should preferably be linked to each other with clear cut deliverables in each semester.

Management

MGT551 Management of Business- Government Relationship and Managerial Ethics

Government involvement in business activity takes many forms and can be seen as an attempt by the government to tackle the problems caused by the operation of the free market. This course provides an overview of business-government relationship in Pakistan and addresses issues related to ethics and managerial decision-making.

Prerequisites: MGT201, MGT221, MGT301, FIN400

MGT553 Operations and Supply Chain Management

The course familiarizes students with the fundamental operational problems in the areas of manufacturing and service sectors. It covers strategies for production and layout, as well as inventory procurement, health, safety and environmental management. Value chain and extended supply chain concepts and models for developing competitive advantage are also discussed in the context of local business and industry.

Prerequisites: MGT201/MGT400, MGT311

MGT554 Change and Innovation Management

Challenges of globalization, new technologies, industry restructuring, increased public scrutiny and other external pressures on today's businesses require constant updating of skills throughout the organization. This course equips the students with practical skills and hands-on tools for planning and guiding large scale systematic change (major strategic shifts, business turnarounds and organizational transformations), managing specific change (innovations, new ventures, pilot projects) and scaling up of specific projects for company growth.

Prerequisites: MGT201/MGT400, FIN400

MGT555 Project Management

This course introduces a structured approach to managing projects. It helps students gain managerial practice through the development of project execution manual for a real life project selected by a group of students. The project focuses more on technology rather than financial management. The course includes topic such as Management Process, Utilization of Project Management, and Strategic Context of the Project, Project Planning & Scheduling, Project Information Management System, Project Communication, Project Control, Project Change Management, Project Teams and Successful Completion of Projects. These topics are taught with reference to Project Management Institute PMBOK standard.

Perquisites: MGT 201/MGT 400

MGT571 Seminar in Management

This course intends to give the students in depth knowledge & awareness about the latest trends in management. The

course will let students participate in interactive & applied sessions to give them skills & concepts related to modern management techniques. Topics covered include contemporary management issues, challenges & strategic response of well-rounded managers.

Prerequisites: MGT201/MGT400

Social Sciences

SSC151 Pakistan History

This is a comprehensive course on the history of Pakistan from earliest times to present day. Emphasis is laid on highlighting the historical and cultural aspects of Pakistan through various phases of history. The objective is to expose students to the record of human existence and struggle in this land and develop in them an appreciation for their culture and world. The course content includes the freedom struggle for Pakistan and history of the country since independence.

SSC152 General History

The objectives of this course are to stimulate interest and enthusiasm for the study of the past; an understanding of the nature and use of historical evidence and an understanding of the nature of cause and consequence, continuity and change. The course content includes political history, cultural history and intellectual history.

SSC153 Media Studies

Media Studies is being introduced in order to acquaint students with the history and fields of media culture, the methods of media analysis and their methodological foundation. The course also focuses on different parts of media culture along with the historical, aesthetic and technological and social development of media.

The course aims at enabling students relate themselves to contemporary media saturated environment and understand the significance of media in the contemporary world.

SSC154 Research Methods in Social Sciences

The course is designed to develop an understanding of research methods so as to enable students employ research based knowledge to understand issues related to research and choose a research design. The course also aims at assisting students in data collection and analysis along-with critical evaluation of research material.

SSC156 History of Ideas

This introductory course is a survey of the ideas which have ruled the world, shaped human societies and determined the destinies of mankind. History of ideas is replete with the instances that when ideas change, paradigms also change, resulting in the change of world-

views. Such changes generate creative tension experienced in the movement of thinking and being from the "thus it is" to the "thus it ought to be". History of ideas is a procession of mans responses to the socio-cultural, moral and ethical, scientific and technological, political and economic issues and problems of his age. It is the story of his success or failure in the management of his personal and corporate affairs.

SCI251 Creative Writing

This course aims at tingling and stretching the imagination and creativity of students by making them experiment with different kinds of writing. The course will enable students improve their talents and skills of writing. It will also give them the opportunity to explore different channels of expressing themselves.

SSC252 Sociology

This course introduces the basic concepts of sociology, method of sociological research, relationship between individual, culture and society, and the influence of social and cultural forces on personal experience and social behaviour. Issues of social change, collective behaviour, urbanization, and environment are addressed. Particular emphasis is laid on making analytical connections between social theory and policy.

SSC253 Logic

Effective communication and decision making require that the business executive has precision in linguistic expressions and sound reasoning. This course is taught to students of business and information management with the objective of helping them improve their skills in logical thinking and use of language.

Course contents include identification of deductive and inductive arguments, truth and validity of thought, vagueness and ambiguity, agreements and disagreements, resolution of disputes, language functions, empirical and necessary sentences, forms of discourse and types of fallacies, the philosophy of logic and logic in use.

SSC254 Anthropology

This introductory course in anthropology presents basic concepts, nature, scope and application of anthropology in today's world. It traces the biological and cultural evolution of mankind. Particular emphasis is laid on the concept of culture, transportation, subsistence patterns, environmental interaction, religion, language and arts and human diversity and commonality.

German / Chinese / Japanese introductory language courses.

Addendum

Main Campus: University Road, Karachi.
UAN: (021) 111-422-422

City Campus: Garden / Kayani Shaheed Road, Karachi.
UAN: (021) 111-677-677

Website: www.iba.edu.pk, E-mail: info@iba.edu.pk